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1.1 Important for your safety

1 Foreword

Operating personnel should always have access to this user manual!
The owner of the unit must ensure that the operator of the unit always has an operating manual at his/her disposal in a language he/she understands!

All persons involved in the set-up, commissioning, operation, maintenance, repair and servicing of the machine must have read and understood the user manual beforehand, and the chapter on Safety in particular. We recommend to the owner of this unit to have this confirmed in writing

In principle you should refrain from any work method that would affect the safety of **WIWA**® products and the operating personnel.

Please read and comply with:

- the applicable guidelines for your country.
In Germany, these are the "**Richtlinien für Flüssigkeitsstrahler**" (Guidelines for Liquid Jets), issued by:
Publisher: the Hauptverband der Gewerblichen Berufsgenossenschaften.
- The **manufacturer's instructions and processing guidelines** for coating or transfer materials are to be respected at all times.

This machine has been designed and manufactured under due consideration of all safety-related aspects. It corresponds to the current standard of technology and to applicable accident prevention regulations.
The machine left the factory in perfect condition and guarantees a high level of technical reliability and safety. Nevertheless, there are certain risks that can arise from incorrect operation or misuse:

- to life and limb of the operator or third party,
- to the machine and other material assets of the owner,
- to efficient work with the machine.

1.2 Machine card

This user manual is only valid in combination with the following machine card.

The machine card contains all important and safety relevant data and information about the machine.

- exact designation and manufacturer data
- technical data and limiting values
- equipment and test certificate
- data of purchase
- Machine identification (machine components and accessories with article and spare parts numbers)



**The data on the machine card must match the data on the type plate.
In case of discrepancies or if the type plate is missing please notify us immediately. Conversions and alterations.**

1.3 Pictograms



The notices and symbols used in this manual have the following meanings:

NOTICE

Indicates an informative text passage.
You should pay particular attention when reading it.



WARNING

A potentially dangerous situation is indicated.
Non-observance can lead to death or very serious injury.



DANGER OF EXPLOSION

Indicates a situation with potential danger of explosion.
Strict compliance with these notes is mandatory.



VOLTAGE

A situation showing danger of explosion by electrostatic charge is indicated.
Strict compliance with these notes is mandatory.



HOT SURFACES

Identifies a situation involving the danger of burning on a hot surface.
Do not touch hot surfaces without wearing gloves.

The following symbols indicate that protective equipment should be worn. With your health in mind you should always comply with the recommendations of the material manufacturer.



WEAR PROTECTIVE CLOTHES



USE RESPIRATORY PROTECTION



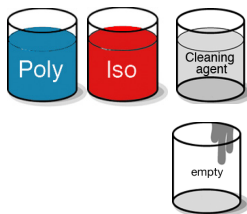
USE EYE PROTECTION



WEAR PROTECTIVE GLOVES



WEAR HEARING PROTECTION



Drum "Poly" + "Iso" + "Cleaning material"

Identifies a drum containing the material to be applied, which the user requires at the corresponding location in the manual.

Drum "empty"

Identifies an empty collecting vessel to be used by the user to collect contaminated spraying material.

1.4 Labels on the machine



Figure 1.1.



Figure 1.2.



Figure 1.3.

Appropriate information signs and labels on the machine refer to possible danger areas and must be respected at all costs. Information signs and symbols must not be removed from the machine. Labels with damaged and illegible information or symbols must be replaced immediately.

The following signs can be found on the machine:

- Type plate on unit control cabinet, Figure 1.1.
Please check that the type plate data are identical with those on the machine card.
In case of discrepancies or if the type plate is **missing**, please **notify** us immediately.
- Warning label "Caution! Electric voltage!" on control cabinet, (Figure 1.2.).
- Warning label "Caution! Hot surface" on adapter, (Figure 1.3.).

2.1 Danger sources

2.1.1 Dangers caused by the spray jet

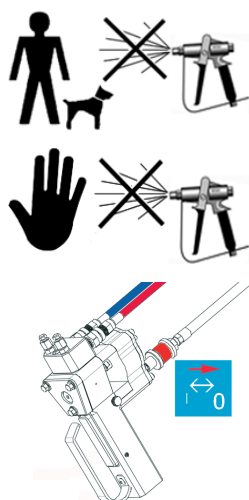


Figure 2.1

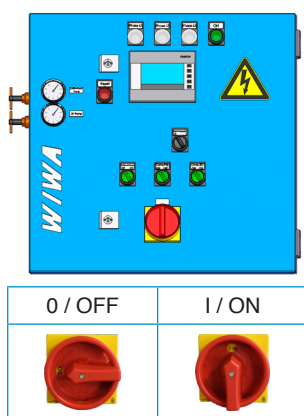


Figure 2.2

2 Safety information

Please remember that dual component systems work with extremely high pressures and may cause life threatening injuries if used inappropriately. Always pay attention to and follow all notes in the user manuals for the optionally offered accessory equipment. Pay particular attention to the chapter on safety notes for the corresponding components

Please comply with the following instructions:

- Never point the spray gun at yourself, other persons or other living beings!
- Never hold your fingers or hand in front of the spray gun and never reach into the jet spray.
- Material hoses must be able to withstand pressures beyond the maximum working pressure.
- Material hoses must never be repaired!
- Never try to seal leakages on connections or high pressure hoses by hand or by wrapping fabric around them. In case of leakages, immediately depressurize the entire system (spray gun, hose, pump, etc.). Defective parts must be replaced.
- Lock the spray gun(s) each time work is interrupted, even for short breaks, and check that it is properly secured, (Figure 2.1).
- Switch off the machine before starting maintenance and cleaning work on the unit or the spraying accessories (Figure 2.2).
- In case of material congestion or agglomeration of material in the spraying system, residual pressure can still be present despite pressure discharge. Pay full attention to this when performing repair work!
- Material hoses and spray gun in particular must be disassembled with greatest care to avoid accidents caused by release of residual pressure.
- When disconnecting material hoses, we recommend to cover the hose connection with a cloth to catch any escaping material sprays.

2.1.2 Danger to health



- In closed rooms or with pressurized systems in which aluminium components or galvanized parts have contact with the solvent, hazardous chemical reactions may occur when using 1.1.1 - trichloroethane (TCE), methylene chloride or other solvents containing chlorinated hydrocarbons (CFCs). If you wish to use the aforementioned solvents or varnishes and paints containing such solvents, we advise you to consult the **WIWA**® - customer service or **WIWA**® directly.
- We would like to point out that we have a series of dual component systems in rust and acid proof design available for such materials.
- **DANGER OF BURN INJURY!**
Depending on the set temperature, the outer surface of the adapter can heat up considerably. You should therefore always wear protective gloves when having to work on the adapter.

2.1.3 Danger for equipment



- Changing the mixing ratio may cause a change in pressure ratio and thus require the adjustment of the max. permissible air inlet pressure. In this case the existing safety valve must be replaced. Consultation with **WIWA**® is highly recommended.
- The system should never be operated without safety valve!
If the safety valve needs to be replaced, you can find the corresponding order number on the machine card.
- The maximum operating pressure, specified by us must generally be adhered to for all **WIWA**® parts (e.g. pump, heater, hoses, spray gun, safety valve).
At varying operating pressures the lowest value is always valid as the maximum admissible operating pressure for the entire system.
General example:

Pump	up to 240 bar
Material hose	up to 600 bar
Spray gun	up to 240 bar

The maximum permissible operating pressure for the entire system in this example is 240 bar.

2.1.4 Danger caused by electric voltage



- When used in atmospheres containing solvents, there is the danger that the power cable could become flawed or porous.
- Therefore the power cable must be checked for externally visible damage before each start-up.
- Never repair a power cable. Damaged power cables must always be completely replaced.
- This work must be carried out by a professional electrician.

2.1.5 Danger caused by explosion



- Never spray cleaning agent or materials cleaning agent containing into cone-top cans or drums with bung hole!
- Always use open containers. Place the containers on a grounded surface. When using metal containers avoid contact between spray gun and container wall, due to possible electrostatic charging. The high flow velocities associated with the Airless spraying method may cause static charging. Static discharges can cause fire and explosion. The original **WIWA**® DUOMIX PU 460 is grounded via the electrical connection as standard.
- Never operate the unit outside in case of a thunderstorm.
- Because of the generated electrostatic charging, you should only use conductive material hoses. All original **WIWA**® material hoses are conductive and perfectly matched to our equipment. The maximum permitted working pressures of the hoses must be higher than or equal the maximum operating pressure of the corresponding dual component system.
- Switch off all heaters when working with cleaning agents in the material circuit (e.g. complete cleaning). Complete cleaning must only be performed after the system has cooled down.

2.1.6 Danger caused by disregarding the explosion protection

- **The system must NOT be operated in explosion protection zones!** Spraying equipment designed without explosion protection must not be used in workshops that come under the explosion protection ordinance.

2.2 Operating personnel

2.2.1 Setup, maintenance, service and repair work

Persons under the age of 16 are not permitted to operate this equipment. The owner of the machine must ensure that the user manual is made available to the user and make sure that the user has read and understood its contents.

Activity	Qualification of personnel
Setup work	instructed user
Service work	instructed user
Cleaning work	instructed user
Maintenance work	personnel trained by the WIWA ® - customer service
Repair work	personnel trained by the WIWA ® - customer service

2.3 Protective equipment



- We would like to point out that the valid guidelines and stipulations applicable to the work environment (mining, closed rooms, etc) must be observed in any case.
- Always wear the protective clothes specified by the material manufacturer to avoid injuries.
- It is recommended that the operator should always wear a respiratory protection mask, even though the paint mist has been minimized in Airless spray painting applications with correct pressure setting and working mode.
- Wear protective goggles to protect against eye injuries caused by mechanical or chemical influences.



2.4 Safety features



Figure 2.3

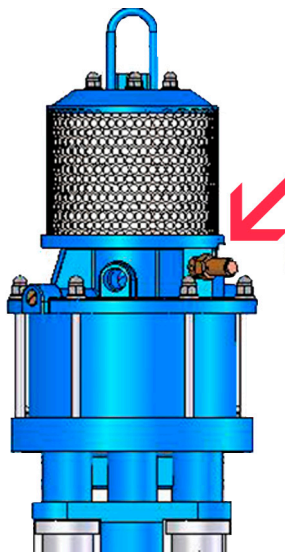


Figure 2.4

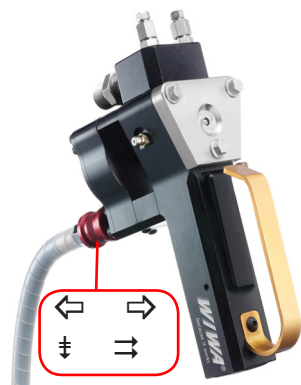


Figure 2.5

- Wear protective gloves with lower arm protection to avoid burn injuries.
- The sound pressure level of this unit is less than 85 db(A).
However, operating personnel should still be provided with suitable noise protection equipment.

All units are delivered with the following safety features:

Master switch, (Figure 2.3)

When the master switch on the control cabinet is switched to position "0 / OFF", both the electric power and compressed air supplies are immediately cut off.

Note:

- The compressed air supply to the spray is not interrupted!
- Material may still be under pressure in the system!

Safety valve, (Figure 2.4)

The safety valve on the air motor of the proportioner pump makes sure that the max. permissible air inlet pressure is not exceeded. The safety valve will open and vent off air when the air inlet pressure exceeds the set limiting value.

Thermocouples, (not shown)

These elements switch off the equipment when the maximum permissible temperature in the material flow heaters or in the hose package is exceeded. This malfunction is signalled on the control cabinet. Operation of the equipment can be resumed after the fault has been rectified.

Material pressure relief valves, (not shown)

In the factory both pressure relief valves were set to the maximum admissible operating pressure. When this value is exceeded, the equipment, including the heaters, will switch off completely.

This malfunction is signalled on the control cabinet.

Trouble free operation can only be resumed after the pressure on the corresponding components has been relieved.

Air pressure valve on spray gun, (Figure 2.5)

The air pressure valve must be locked for each break, even for short interruptions of work. Slide the air valve to position "CLOSED/0" to do so.

With missing compressed air the material valves will stay closed.

All safety features must be checked:

- before each start-up of the equipment!
- before starting work on or with the equipment!
- after completion of setup work!
- after cleaning and servicing work!
- after maintenance and repair work!

**Caution!**

If any of the safety features is not fully functional or any other fault is found on the machine, the system must be shut down immediately. Operation of the machine must only be resumed after the correct functional state has been re-established.

2.5 Handling the system and auxillary materials



2.5.2 Handling auxillary materials

2.6 What to do in events of emergency



2.6.1 Leakage

2.6.2 Injuries

2.6.3 Fire

Check list to check the safety features on the depressurized unit

- Please check:
 - the lead seal on the safety valve for damage.
 - the safety valve for external damage.
 - the correct function of the master switch.
 - the function of the air pressure valve on the spray gun.

Before starting work you must interrupt the compressed air supply to the machine.

- Make sure that the machine is free of residual pressure, in both the air and the material side.
- After the completion of work you must in any case check the function of all protective devices and the correct function of the machine.

- Follow the safety notes and dosing information of the manufacturers and the generally applicable regulations when handling spraying materials, cleaning agents, oils, greases and other chemical substances.
- Rests of spraying material, cleaning agent, oils, greases and other chemical substances must be collected in accordance with statutory provisions concerning recycling and waste disposal.
- The official local waste water laws are valid.

- In case of leakage the system must be shut down **immediately** and the complete system must be depressurized:

- Switch off the unit by the EMERGENCY STOP switch 
- Make sure that the system has been depressurized.
- Immediately replace the defective parts or have these replaced.

- Immediately consult a physician if injured when handling fluid jets (because of their cutting effect).

- Read and comply with the instructions for fire alarm and escape routes, which are displayed in your factory or at any work place.
- Only use the extinguishing substances stipulated by the material manufacturer.



3.1 Intended use of the machine

3 Description of machine

The **WIWA**® DUOMIX PU is most suitable for the application of solvent free dual-component polymer materials (polyurea). This system enables the seamless application of coatings and linings

Your dual component system was designed to meet your special requirements (material to be applied, mixing ratio, transfer quantity, etc.).

Exact metering of both components is assured by the fixed mixing ratio.

The mixing ratio can only be changed by exchanging the material pumps (hardener or standard component).

Any other use is deemed to not be in accordance with regulations.

The manufacturer's approval must be obtained before the **WIWA**® equipment is used for any other purpose or with other materials, and therefore not for the purpose it is intended for, otherwise the warranty will become null and void.

Intended use also includes compliance with the technical documentation and adherence to the prescribed operating, servicing and maintenance guidelines.

3.2 Notes on warranty



Unauthorized conversions or alterations should not be undertaken on safety grounds.

Protective equipment should not be dismantled, converted or bypassed.

Use of components which have not been manufactured or delivered by **WIWA**® renders any warranty null and void.

The unit should only be operated within the prescriptive limit values and machine parameters.

Dangers from accessories and spares

If original accessories and spares of **WIWA**® Wilhelm Wagner GmbH & Co. KG are used, usability with our units is guaranteed. It is, however, mandatory to respect the safety regulations of the accessories and spare parts. These safety regulations are found in the corresponding user manuals for the accessories.

If foreign accessories or spare parts are used, the company **WIWA**® cannot guarantee the safety of the entire system. Similarly liability is null and void for damages or injuries incurred through use of those accessories and spare parts.

3.3 Machine environment

3.3.1 Emissions



Depending on which materials are processed, hazardous fumes may be generated. For this purpose, always ensure for sufficient aeration and ventilation at the workplace for avoiding damage to your health and property. You should **always** follow the processing information issued by the material manufacturers.

3.3.2. Sound pressure level



The sound pressure level of this unit is lower than 85 db(A).

However, operating personnel should still be provided with suitable noise protection equipment. The operator is responsible for adhering to the accident prevention regulation "Noise" (BGV B3). For this purpose, pay particular attention to the conditions of the installation location, e.g. will the noise exposure increase if the system is set up in or on hollow bodies.

3.4 Transporting the machine and additional equipment

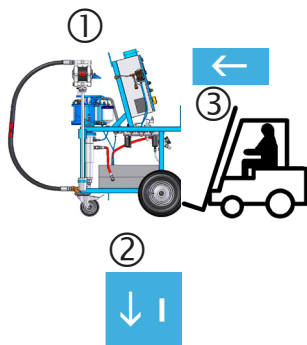


Figure 3.1

- Disconnect the entire power supply for the machine, even for short transport distances.
- Empty the machine before transport.
- Do not transport any other objects (e.g. material containers) while lifting or loading the device.
- Remove all loose components (e.g. tools) from the unit.
- Caution when loading with hoisting gear!
 - Ensure sufficient load bearing capacity of lifting gear and lifting tackle when loading the machine.
 - The device must only be lifted by the lifting and lashing points provided for this purpose, (Figure 3.1, Pos.1).
 - Watch out for freely suspended suspension ropes!
 - When using a forklift truck make sure that the lifting fork is long enough (at least 100 cm). The lifting fork must only be inserted into the rack from the front (towards the control cabinet) and through all and fork openings, (Figure 3.1, Pos.3).
 - Never stand under suspended loads or inside the loading area. This poses a danger to life!
- You will find the dimensions and weights of the equipment on the machine card.
- Secure the load on the transport vehicle against slipping and falling off, (Figure 3.1, Pos. 2).
- Parts or equipment that have been removed for transport purposes must be attached professionally and in accordance with the intended use before commissioning.

3.5 Place of installation of the machine



3.5.1 Safety measures at the place of installation

- The **WIWA**® DUOMIX PU 460 can be installed inside and outside spray booths and rooms. However, outdoor installation should be preferred in order to avoid contamination.
- Before connecting the unit to the mains supply, check whether the prescribed electrical data complies with that available at the installation site.
- The machine must only be taken into service under frost free weather conditions to avoid crystallization of material and thus damage to the equipment.
- This system requires a solid mounting surface and sufficient free space for safe operation.

The access to the safety features must be kept clear.
- Always keep the working area, especially all walkways and standing areas, clean and tidy. Clean up spilled paint or cleaning agents immediately.
- Always ensure for sufficient aeration and ventilation at the workplace to avoid damage to health and material objects.

Always observe the processing instructions issued by the material manufacturers.
- Protect objects adjacent to the spraying object against possible damage caused by the paint mist.

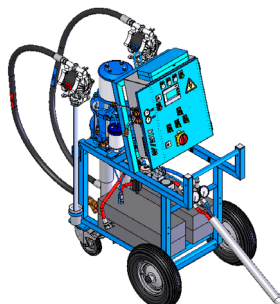
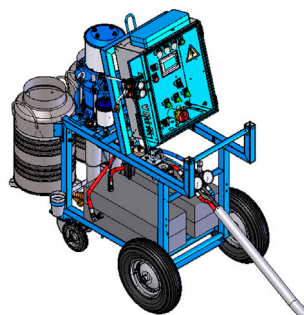


3.6 Storing the machine and additional equipment

3.7 System variants

- The owner must protect the entire system by undertaking appropriate lightning protection measures.
- Protect the equipment against rain and moisture. Do not store outside.
- Strictly comply with the valid accident prevention instructions.
- At the place of use apply the parking brake for the wheels, (*Figure 3.1.*), Pos. 2.

- Store the machine in a frost-free, vibration free, dry and preferably dust free environment.
- Always store the machine and accessories in a closed room.

with feed pumps optionally with: ➤ diaphragm pumps (<i>Figure 3.2.</i>)	 <i>Figure 3.2.</i>	for 200 l drums optionally with: ➤ material return flow ➤ hose bracket
➤ low pressure pumps (<i>Figure 3.3.</i>)	 <i>Figure 3.3.</i>	
with feed drum (<i>Figure 3.4.</i>)	 <i>Figure 3.4.</i>	Capacity of drums 30 l optionally with: ➤ material return flow ➤ hose bracket

3.8 System description

3.8.1 Without circulation

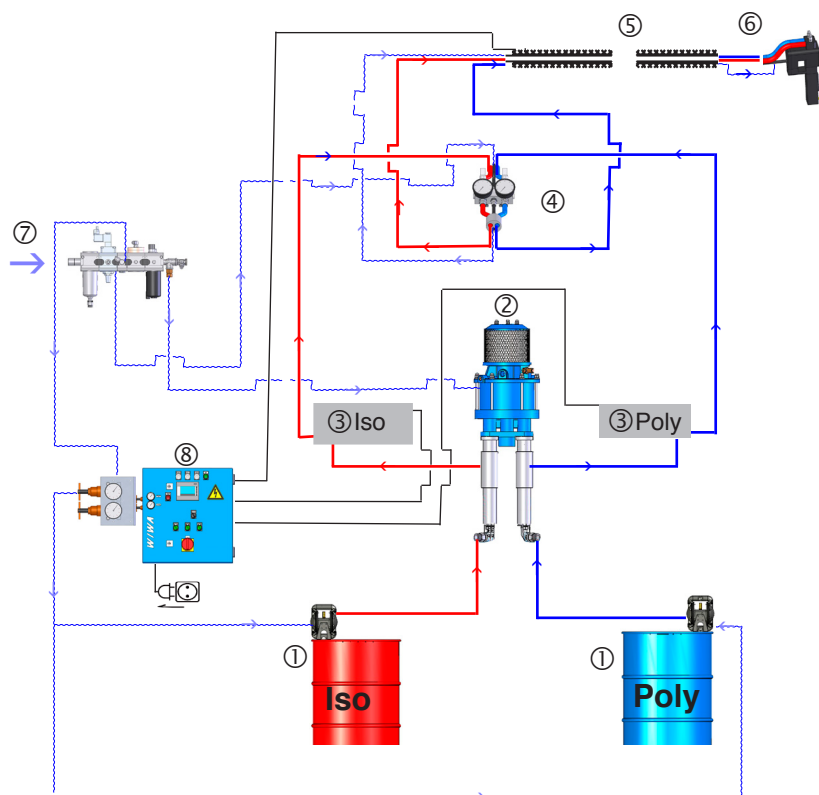


Figure 3.5.

3.8.2 With circulation

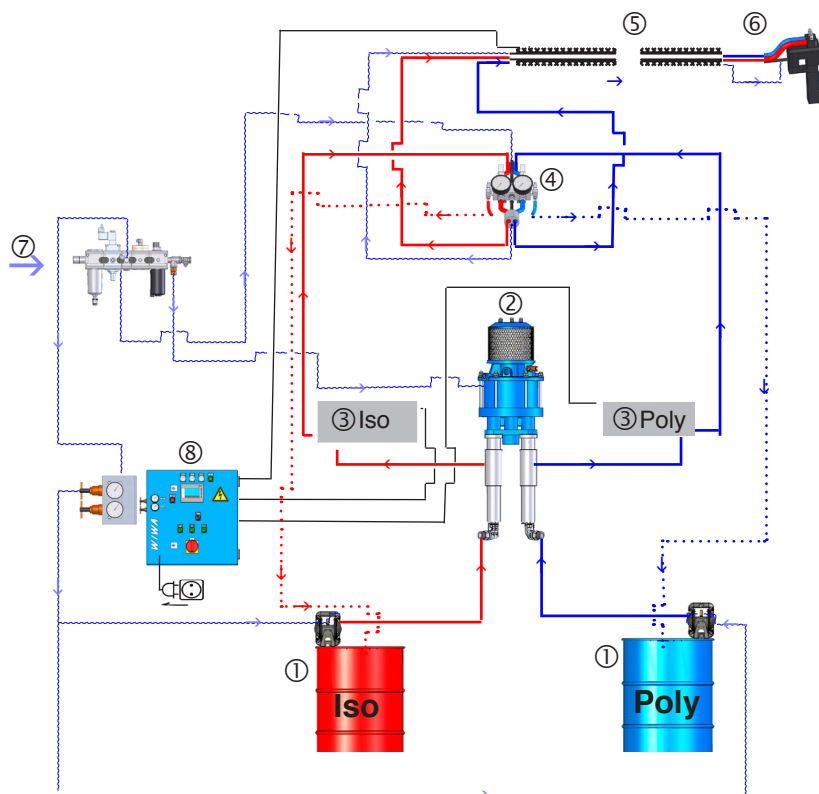


Figure 3.6.

3.8.3 Material flow

① (Figure 3.5.) + (Figure 3.6.)

 Caution!	
Ensure correct component allocation at all times!	
blue = Standard component (Polyol)	red = Hardener component (Isocyanate)

Depending on the model version, the material to be applied is directly filled into the feed drums, or a feed pump is placed into the supply drum (200 l bung hole barrels) of each component.

We recommend to equip the drum with the B-component (isocyanate) with an additional silica gel filter, to prevent the material from reacting with humidity and causing crystallization of the material.

▼ ②

Both components are fed to the proportioner pump and exactly metered for a 1:1 mixing ratio.

▼ ③

Each component is individually heated to the required processing temperature in a material flow heater. The temperature is automatically regulated in accordance with the temperature setting. Preset upper temperature limits make sure that the material will not be overheated. For short breaks, the heating may remain switched on.

▼ ④

The material flow is controlled on the outlet manifold:

- a) for spraying: to the spray gun
- b) only optional: to vent the system back into the delivered drum.

▼ ⑤

When spraying, the material is directed through the heated hose package to the spray gun. The hose package contains a compressed air line to supply the spray gun with compressed air, as well as a material hose for each component with a 3 m whip end. Second temperature sensor is integrated in the whip end.

▼ ⑥

Mixing of material only takes place in the pneumatically controlled spray gun. The spray pattern can be pneumatically influenced with the jet regulating screw, as required.

The material flow is controlled by opening and closing the mixing chamber. With the spray gun closed, the material residue in the mixing chamber is mechanically forced out. A material plug that may possibly be stuck in the outlet opening can be removed with the help of compressed air.

3.8.4 Compressed air control

▼ ⑦ (Figure 3.5.) + (Figure 3.6.)

The compressed air supply provided by the customer is connected to the maintenance unit of the equipment. From there, the compressed air is directed to the proportioner pump, the feed pumps and the spray gun. The required working pressure for the feed pumps and the proportioner pump can be regulated by the pneumatic regulators on the control cabinet. The maximum operating pressures must thereby be complied with (see chapter: Technical data).

3.8.5 Temperature control

▼ ⑧ (Figure 3.5.) + (Figure 3.6.)

The temperatures for both material flow heaters and for the hose package are adjusted by thermostats on the control cabinet of the equipment. The automatic temperature control prevents overheating of the material. Depending on local conditions concerning electric power supply, the power level for the material flow heaters can be reduced.

3.9 System components

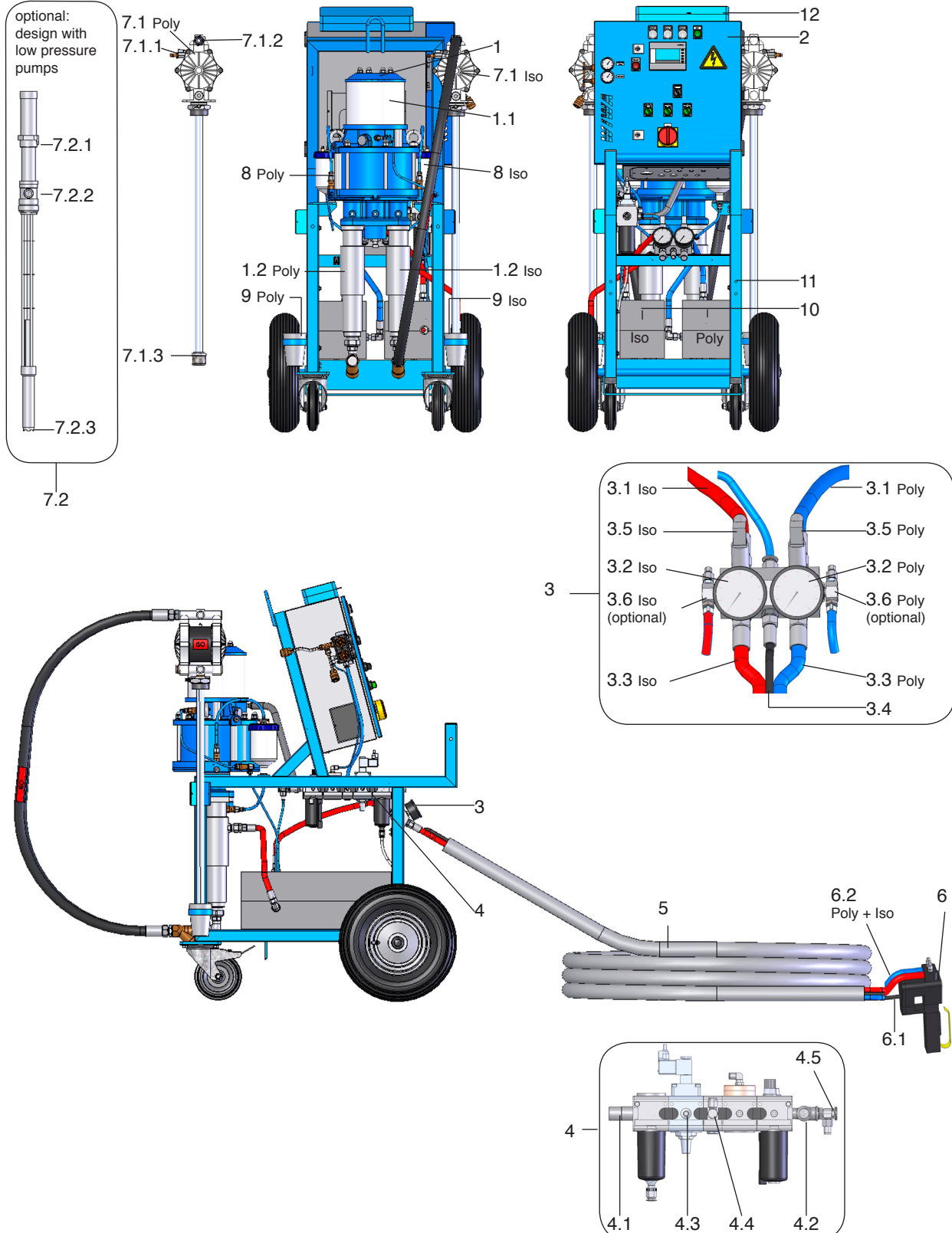


Figure 3.7.

Position	Description
1	Proportioner pump
1.1	Air motor
1.2	Material pump
2	Control cabinet (see chap. 3.9 Control cabinet)
3	Distributor
3.1	Material hose connection
3.2	Material pressure gauge
3.3	Connection material hose - hose package
3.4	Connection compressed air hose spray gun
3.5	Material pressure switch
3.6	Connection return/drain hose (optional)
4	Maintenance unit
4.1	Compressed air connection
4.2	Connection compressed air line to proportioner pump
4.3	Connection compressed air line to proportioner pump
4.4	Connection compressed air line to feed pumps
4.5	Deicing of control valve
5	Heated hose package
6	Reverse flow spray gun (see chapter 3.10 Spray gun)
6.1	Connection compressed air hose spray gun
6.2	Connection of heated hose package
7	7.1 Feed pump, design: Diaphragm pump
7.1.1	Compressed air shut-off valve / connection compressed air line
7.1.2	Material outlet with dirt trap
7.1.3	Material intake with check valve and material screen
7.2	Feed pump, design: Low pressure pump
7.2.1	Connection compressed air line
7.2.2	Material outlet with dirt trap
7.2.3	Material intake
8	Release agent chamber
9	Receptacle
10	Material Flow Heater
11	Frame
12	Tool box

3.10 Control cabinet

3.10.1 Components on the control cabinet

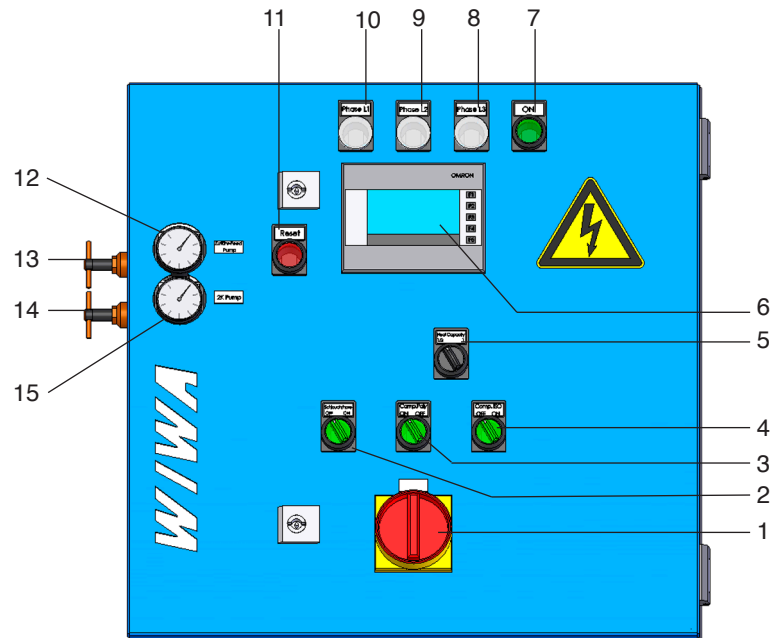


Figure 3.8.

Position	Description
1	Master switch
2	Heating hose package "ON/OFF"
3	Material flow heater "ON/OFF", component Poly
4	Material flow heater "ON/OFF", component Iso
5	Selector switch heating power reduction "1/2 / 1"
6	Touch screen monitor
7	Button "SYSTEM ON"
8*	Control lamp phase monitoring phase 3
9*	Control lamp phase monitoring phase 2
10*	Control lamp phase monitoring phase 1
11	Button reset malfunction
12	Compressed air pressure gauge feed pumps
13	Compressed air regulator feed pumps
14	Compressed air regulator proportioner pump
15	Compressed air pressure gauge proportioner pump

*) not available for single-phase design

3.10.2 System control

The touch screen display is used to enter or read the following values:

- ACTUAL and nominal temperature individually for both material flow heaters and for the hose package,
- ACTUAL value for the applied material quantity
- Activation of parking position
- Display of malfunctions
- Language selection.

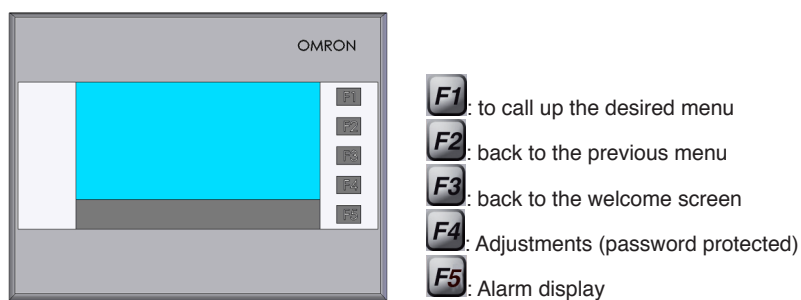
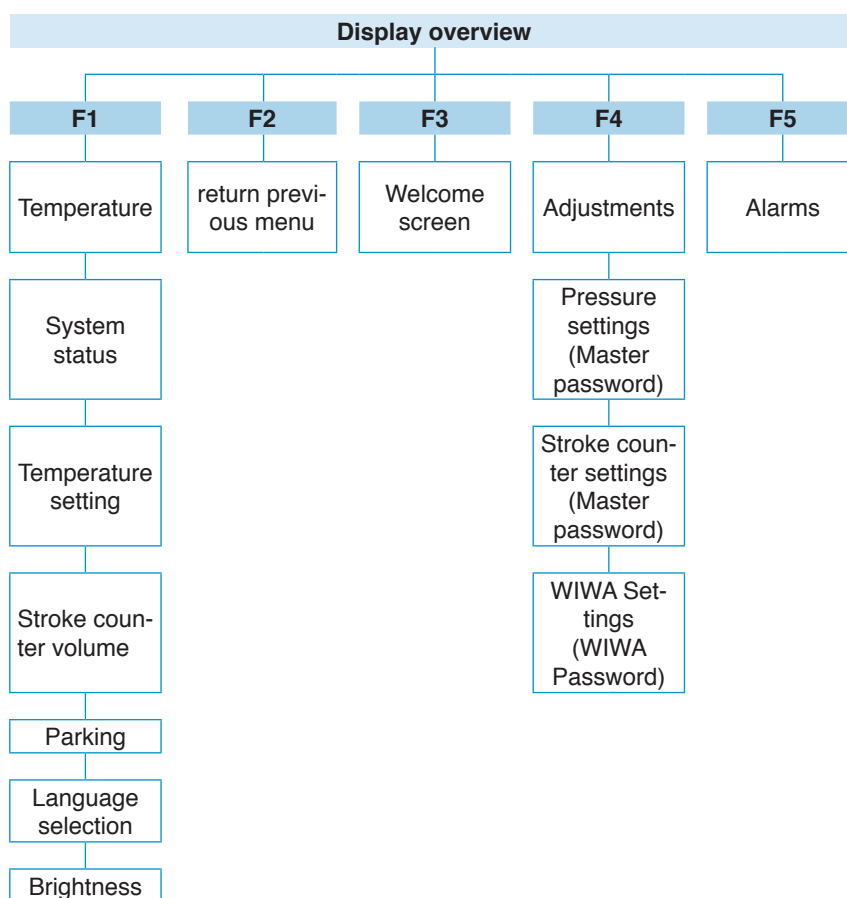


Figure 3.9



Navigation



1. Welcome screen

After switching on the system, the display shows the welcome screen. During operation you can return to the welcome screen at any time by pressing the **F3** - button.

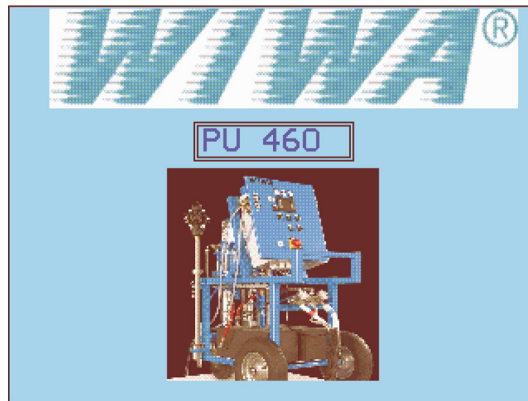


Figure 3.10.

In each other mask the following symbols may appear in the top right hand corner:

Symbol	Meaning
	Caution! A malfunction is reported. To display the malfunction press button F5 on the display. Follow the notes in chapter "11 Malfunctions and trouble-shooting", P. 11-1.
	The system runs in manual mode: Pressure monitoring is deactivated.
	The system runs in automatic mode: Pressure differential monitoring is deactivated Input changes can be made in the "SETTINGS" mask (password protected). Press the button F4 to reach the mask "SETTINGS".
	The system is in parking position.

Pre-settings



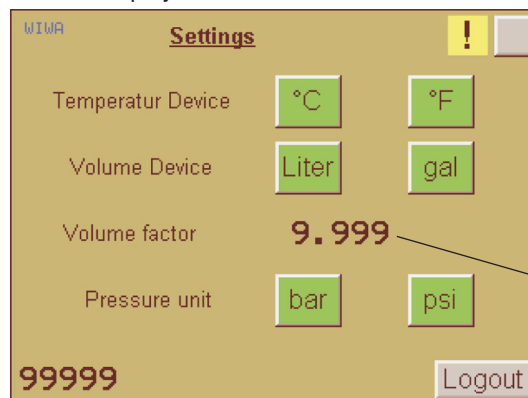
Attention!

Master and WIWA are password protected. Changes can only be made by persons with access rights (Master and/or WIWA)

2. In this menu you can make influential settings for the work process.

We recommend to determine the following parameters before starting work:

► Units for display values



Press the corresponding button to choose the unit in which the values should be displayed.

Press **F4** again to return to the previous window..

Conversion factor l/gal

1l ≙ 0,219 UK gal

1l ≙ 0,264 US gal

Figure 3.11

Display of current
temperature
(Large display)



- Print setting (Master -password protected)
- WIWA settings (WIWA -password protected)

3. The current temperatures for both material flow heaters and for the hose package are displayed.

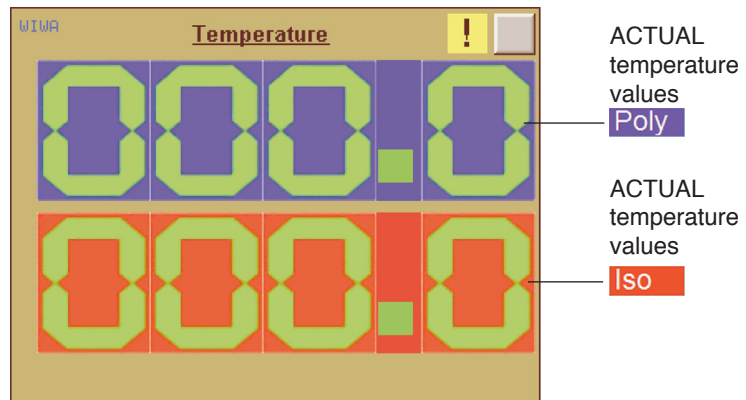
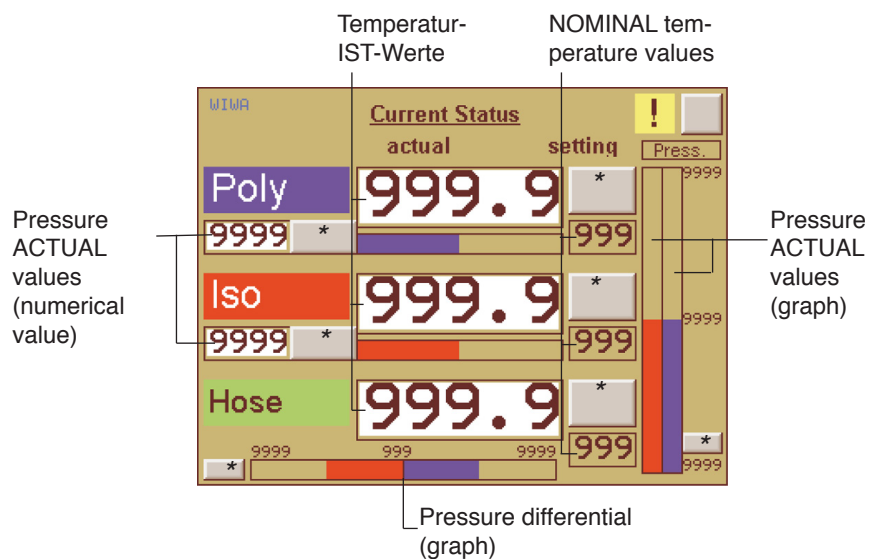


Figure 3.12.

Display of the
system status



4. The current temperatures for both material flow heaters and for the hose package are displayed. These can be directly compared with the NOMINAL values. The display additionally shows the current pressures of both components, as well as the pressure differential between both components.



* => selected unit

Figure 3.13.

Displays the nominal temperature



5. Here the NOMINAL temperatures are specified for each component and for the hose package. Pressing the corresponding numerical field opens a keyboard to enter the value. Press ENT to confirm the input.

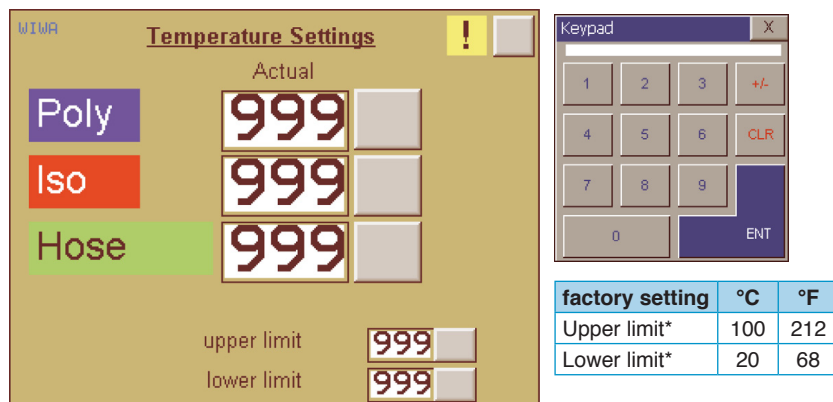


Figure 3.14.

Display of stroke counters



6. The total and daily volume of applied material is displayed in dependence on the pulses.

The daily counters can be reset to zero by pressing the  - button.

Resetting is confirmed in field .

The total quantity counter cannot be reset.

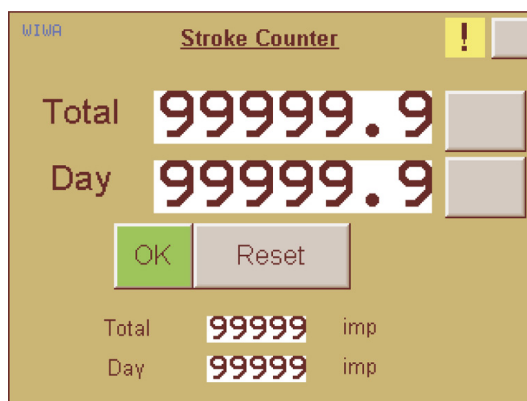


Figure 3.15.

Activate/deactivate parking



Caution!

You should always move the equipment to parking position when interrupting work or at the end of work to prevent the system from being damaged by curing of material.

7.

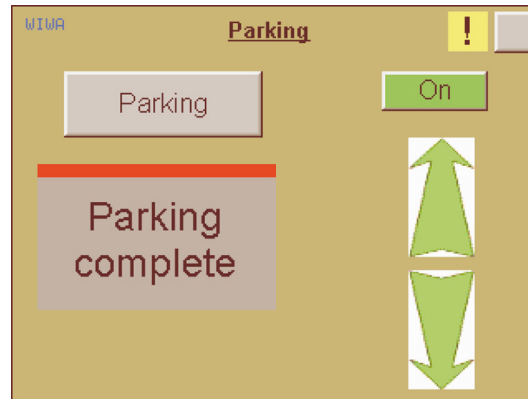
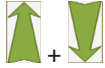
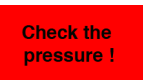
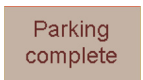


Figure 3.16.

Symbol	Meaning
	Activating and deactivating the standby mode for the unit.
	Display: Parking mode active.
	Display: Parking mode deactivated. (text deleted) The display  no longer shows this symbol. Further possibilities for deactivation: ➤ reset the fault with the "RESET" . ➤ Restart the system with .
	The arrows indicate the current direction of rotation of the proportioner pump. In parking position the proportioner pump remains in bottom position.
	While approaching the parking position, you are asked to check the material pressure of both components.
	The parking position has been reached. The display shows the symbol  in the right hand top corner.

Language selection



8. You can choose the language to guide you through the display. For this purpose, click above the flag  into the field. The selected language is identified with a green bar.



Figure 3.17.

► other languages optional

Setting the brightness



9. Press .

By pressing the buttons  +  - you can match the brightness of the display to the local conditions.

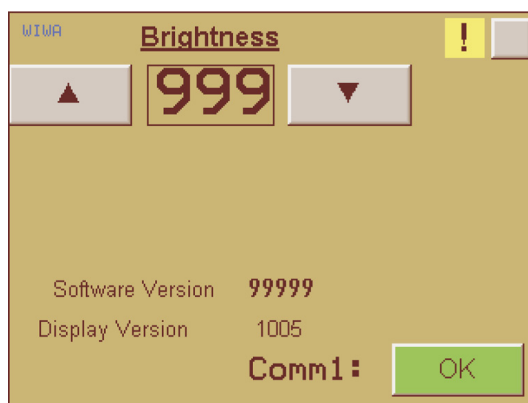


Figure 3.18.



10. Here you will be informed about possible malfunctions:

Text line	Description
1	Display of malfunctions in case of overpressure, to trigger a fuse or concerning excessive temperatures
2	2. Line to display the pressure differential
3	Display of malfunctions, which may occur in the material flow heaters or in the hose package, e.g. faults on the temperature sensor



Figure 3.19.



4 Installation and assembly

Prerequisites

- The material to be applied is readily available.
- Prepare the material by following the instructions of the material manufacturer. All materials to be sprayed must be supplied from the manufacturer with data concerning viscosity, application temperatures, mixing ratios, etc. If this is not the case, consult the corresponding manufacturer and ask for these data. For optimal preparation of the spraying materials **WIWA**® offers a wide range of accessories, like e.g.:
 - agitators in various sizes
 - material preheating containers
- The compressor power must match the air requirements of the equipment, so that an adequate air supply is ensured see chapter "12.1 Technical data", p. 12-1.
- The diameters of the air supply hoses must match the connections on the equipment.

4.1 Setting up the unit

- Place the unit on a level and firm base.
- Consider the required floor space - see chapter "12.1 Technical data", p. 12-1.
 - All operating elements must be easily accessible.
 - The access to the safety features must be kept clear.

4.2 Assembling attachments and accessories



Various system components were removed and packed in a separate carton for transport.

1. heated hose package
2. spray gun (optional)

Material emerging from the connections can cause severe physical injuries and damage to property. Check all threaded parts, nuts, screws and hose connections and tighten these properly.

- Check the permissible highest pressure for material hose, spray gun and accessories. It must be higher than or equal the maximum operating pressure of the equipment as specified on the type plate or the machine card.
- Compare the maximum operating pressure of the safety valve with the specifications in the machine card or the type plate. The data must match.

4.2.1 Connecting the hose package to the adapter

- Connect all hoses and cables to the adapter as follows, (Figure 4.1) - viewed from the front towards the control cabinet

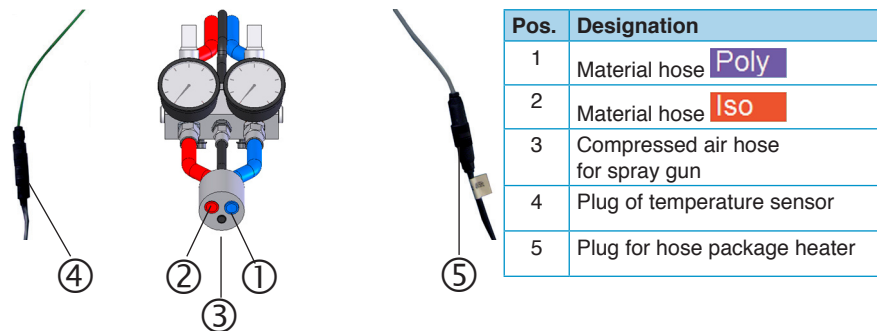


Figure 4.1

4.2.2 Connecting individual hose package segments



Caution!

Ensure correct component allocation at all times!

blue = A- component (Polyol)	red = B- component (Isocyanate)
---------------------------------------	--

- Connect the individual hose package segments, (Figure 4.2). The hose package can be made up of several hose package segments of 15 m each. The assignment of the individual material hoses can be recognized by the colour coding.
 - 3-phase: max. 6 hose package segments, whereby only 2 hose package segments of the same type (max. 2x L1 + 2x L2 + 2x L3) may be connected, so that optimal power distribution is assured at all phases.
 - 1-phase: connect max. 3 hose package segments type L1

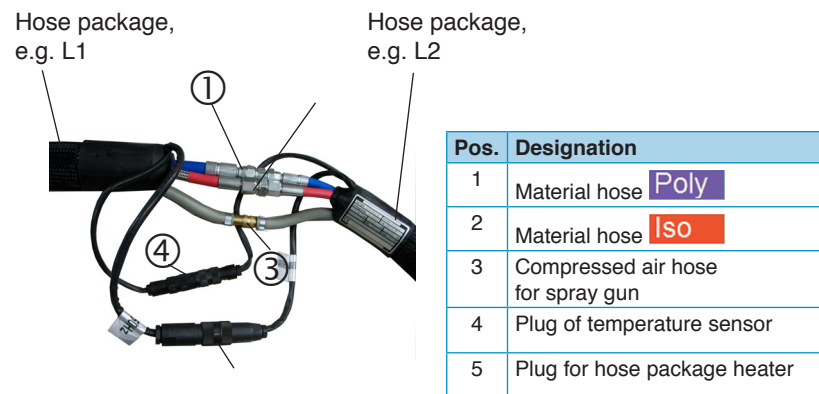


Figure 4.2

4.2.3 Connecting the hose package to the spray gun

- Connect the spray gun to the hose package. Respect and follow the notes in chapter "10.3.4 Connecting the spray gun to the hose package.", p. 10-5 or in the associated operating instructions for the spray gun used.

4.3 Grounding the system

The high flow velocities associated with the Airless spraying method may cause static charging.
Static charges can cause fire and explosion.

System component	Description of grounding
Dual component polyurea unit	The unit is earthed via the mains cable
Spray gun	Grounding is accomplished in connection with the WIWA ® - material hoses. WIWA ® - Material hoses are conductive.
Material supply containers (external)	Grounding acc. to local regulations.
Object to be sprayed	
Cleaning agent container	

4.4 Checking the release agent level

- Check the release agent level - see also chapter "9.4 Checking the release agent", p. 9-3.

4.5 Electric power connection



- Connect the unit to the local mains supply.

**This work must only be carried out by professional electricians.
Locally valid regulations must be followed at all times.**

4.6 Compressed air connection

- Connect the unit to the local compressed air supply.

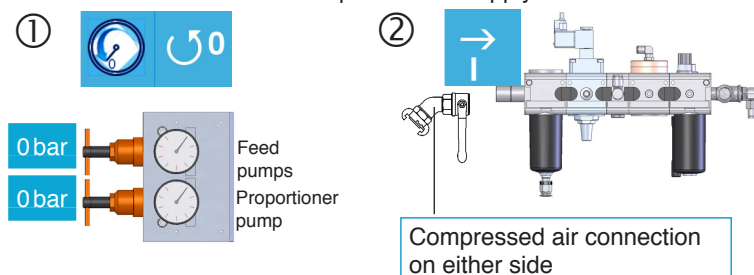


Figure 4.3.

Result

The machine has been set up for initial start-up.



Caution!

Do not switch on any heater when using cleaning agents!



Prerequisites

The following is required:

Procedure:



Caution!

Ensure correct component allocation at all times!

blue =
A-
component
(Polyol)

red =
B-
component
(Isocyanate)



5 Commissioning

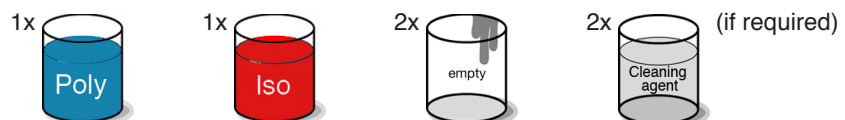
After assembly in the factory, the correct functioning of this machine was checked with a testing medium.

All material hoses and the proportioner pump must first be filled with the material to be applied.

The entire system should first be flushed with the cleaning agent recommended by the material manufacturer and belonging to the material, before it is filled with the material to be applied, to make sure that the spraying material is not contaminated by the testing medium.

Always wear the specified protective clothing.

The equipment has been set up and connected as specified in chapter "4 Installation and assembly", p. 4-1.



1. Prepare the material

- Open the bungholes on the material containers.
- Connect the material and compressed air sides of the feed pumps to the external material containers or fill the material to be applied into the feed funnels.
The Iso material has a tendency to crystallize when coming into contact with humidity. We therefore recommend to have the material container for this component additionally fitted with an optional **WIWA®** - silica gel filter, (see chapter "10.2 Silica gel filter", p. 10-2. *Please observe the notes of the material manufacturer.*)
- Open the shut-off valves for compressed air and material (optional) on each feed pump.

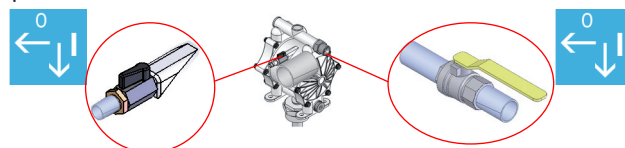


Figure 5.1

2. Disassemble the spray gun from the block, see chapter "10.3.4 Dismantle the spray gun", p. 10-6

3. For optional version with circulation / drain:

- Hold the return hoses into open containers to catch testing agent / material mix.
- Secure the hoses against accidental slipping out.

i Note!

The air inside the system must be pressed out slowly, therefore do not yet apply any pressure to the metering system.

i Note:

The specified pressures are only **guide values** and, **depending on the viscosity of the material** or the **hose length used**, may need to be adapted.

4. Switch on the equipment

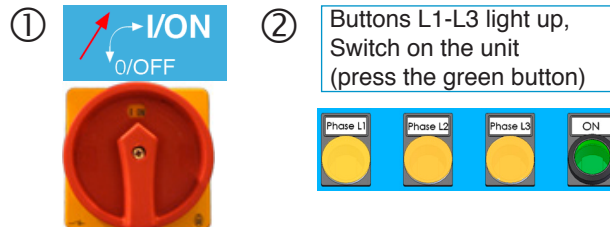


Figure 5.2

5. Fill the material hoses incl. the block with material

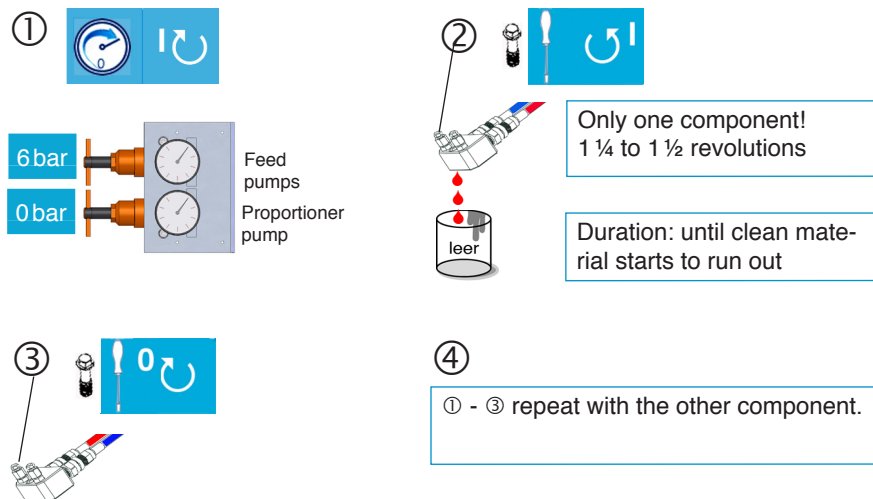


Figure 5.3

6. Fill the proportioner pump with material

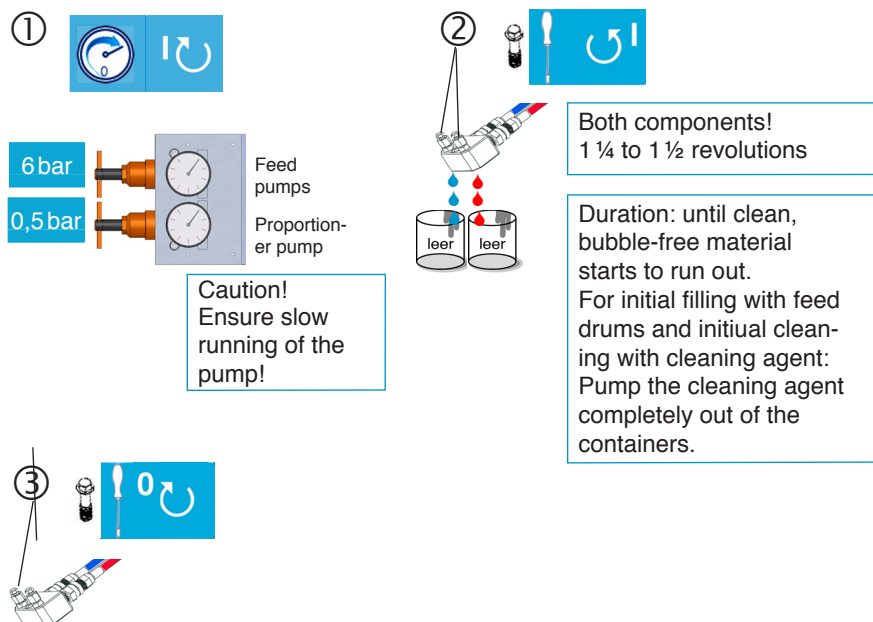


Figure 5.4

7. only for optional version with circulation / drain

- Open the circulation as described in chapter "10.1 Circulation", p. 10-1. Catch the testing medium/material mix in the collecting container.
- Connect the circulation as described in chapter "10.1 Circulation", p. 10-1 as soon as clean material starts to run out.
- Fasten the return hoses to the material container.

8. Pressure test

- Check the entire system for leakage.
In case of leakage abort the start-up process and have the malfunction corrected by trained personnel.

9. Open the deicing

- On the maintenance unit open the regulator for deicing the air motor (Figure 6.4). *The deicing may stay open over the entire life cycle of the equipment.*

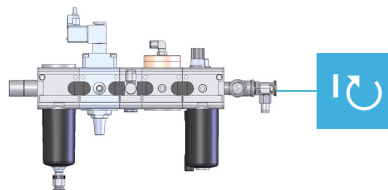


Figure 6.1

Result

The unit is ready for operation.
You may continue with the normal operation of the system as per chapter "6 Operation", p. 6-1 or switch off the system as described in chapter "7 Decommissioning", p. 7-1 .



The following is required:



Prerequisites



Note!

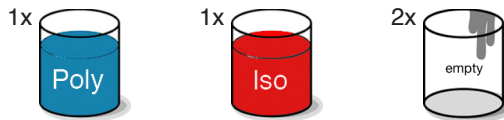
Always observe and follow the warnings and data sheets of the material manufacturer



Caution!

Make sure that the equipment is never left unattended during operation! In events of emergency you must be able to react instantaneously!

6 Operation



Always wear the specified protective clothing.

- The equipment has been prepared as specified in chapter "5 Initial start-up", p. 5-1

Short description	Test state	Comment
Connection including grounding	OK ☒	
Material is available	OK ☒	Iso + Poly
Compressed air connection	OK	closed
Compressed air supply	OK ☒	0 bar
Electrical connection	OK ☒	
System vented	OK ☒	Circulation/drain closed (optional)
Spray gun	OK ☒	locked
Pressure control	OK	
Release agent	OK	

1. Switch on the equipment

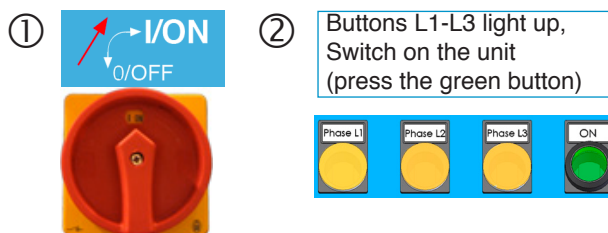


Figure 6.2

2. Secure the material feed or fill the material feed funnels with the material to be applied.

- Open the shut-off valves for compressed air and material (optional) on each feed pump.

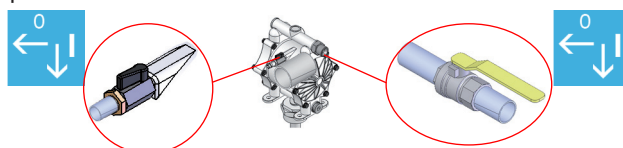


Figure 6.3

Note!

The specified pressures are only **guide values** and, **depending on the viscosity of the material** or the **hose length used**, may need to be adapted.

Note!



The nominal temperatures of the material flow heaters are much quicker reached than the temperatures of the hose package. Therefore switch on the hose package first and the heater for the material flow heating with a slight delay.

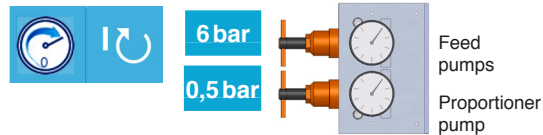
To be able to achieve an optimal spraying result, the entire system, including the hose package, must have been heated up to the pre-set temperature, **before spraying is started**.



Caution!

If the pressure of the proportioner pump is set too high during the heating phase, the pressure of one of the components may increase to overpressure and thus switch off the equipment. You should therefore ensure a low pressure setting!

3. Adjust the compressed air supply



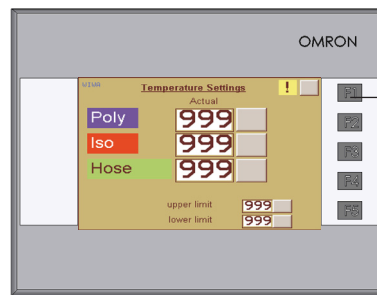
Caution!
Ensure slow running of the pump!

Figure 6.4

4. Switch on the heating system

- Roll out the hose package completely.
- Adjust the desired temperature in the display.

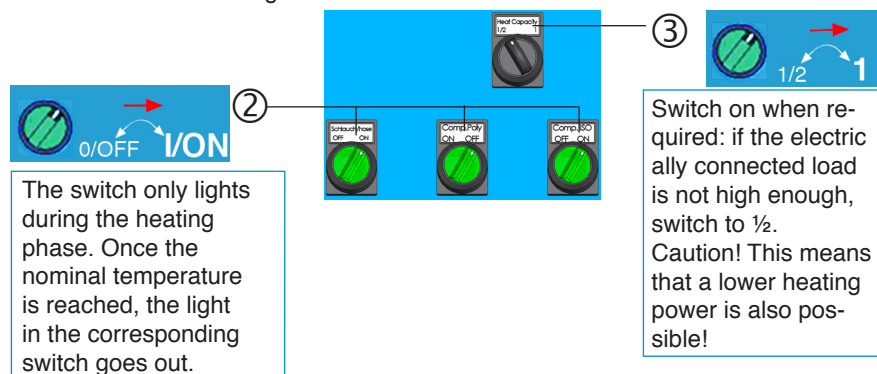
In this respect follow the notes in chapter "3.10 Control cabinet", p. 3-8.
Wait until the material has been heated up to spraying temperature.



① Adjust the temperature for material flow heaters and hose package
Press **F1** 3x

Figure 6.5

- Switch on the heating.



② The switch only lights during the heating phase. Once the nominal temperature is reached, the light in the corresponding switch goes out.

③ Switch on when required: if the electric ally connected load is not high enough, switch to 1/2. Caution! This means that a lower heating power is also possible!

Figure 6.6

5. Pressure equalization of both components

Due to the differences in material characteristics of standard component and hardener component, the pressure in the system may have increased differently during the heating phase.

For optimal working results we recommend a maximum pressure difference of 10-20 bar between both components.



Figure 5.5.

- To relieve the pressure open the valve of the component with the higher pressure.

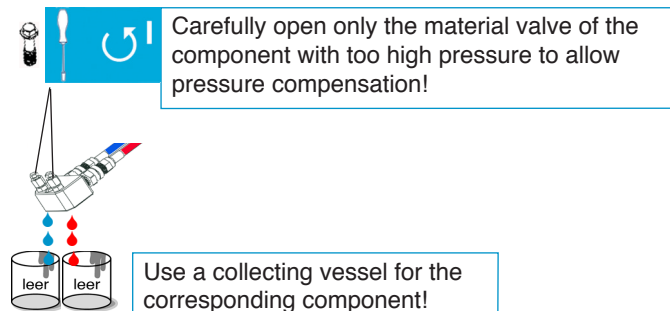


Figure 5.6

- After this pressure compensation close the valve again.

6. Mounting the spray gun

- Mount the spray gun to the block. Fasten the return flow hoses to the material container.

Follow the notes in chapter "10.3.4 Connecting the spray gun to the hose package.", p. 10-5.

7. Adjust the desired spraying pressure

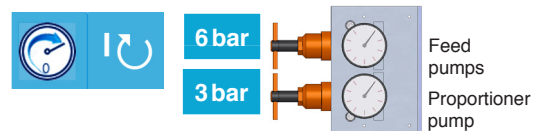


Figure 6.7

8. Start spraying

- Unlock the spray gun.
- Start the spraying process on a test area away from the area to be covered. Observe the chapter "10.3.7 Start spraying", p. 10-6.

The following is required:



General notes



7.1 Activate parking

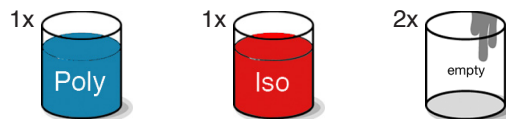


The arrows indicate the current direction of rotation of the pump. In parking position, the pistons stop in bottom position.

7 Decommissioning

Switch off the equipment if you want to interrupt work.

If coating is to be continued with the material in the system, you must return the unit to parking position. In case of longer work breaks and / or when changing materials, the equipment needs to be shut down.



Always wear the specified protective clothing.

To avoid malfunctions of the equipment, you should observe of the following:

- Never allow the system to run empty.
- Do not use any solvents.
- Make sure that the system is in parking position.

For short work breaks, you may just switch the equipment to parking position. The material temperature can be maintained.

1. Activate parking in the display

- Press the **F1** - button 5x to access the "PARKING" touch screen.
- Activate the **Parking** by pressing **On**.

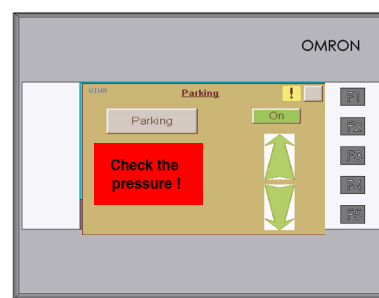


Figure 7.1.

- Reduce the pressure by carefully pulling the trigger of the spray gun. The pump switches off when the piston of the Iso material pump has reached bottom position.
- Close the material valves on the spray gun.



**Note!**

The heaters may remain activated in parking position, if necessary. This maintains the material in the system at a uniform temperature.

2. Switch off the heating (only when required)

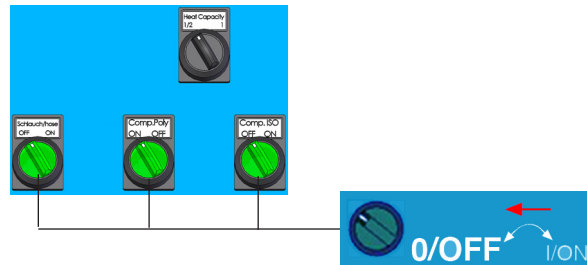


Figure 7.2.

3. Shut off the material and compressed air supply on the spray gun, as described in chapter „10.3.8 End spraying“, P. 10-7.

7.2 Deactivate parking

Press the buttons  or switch off the equipment completely on the control cabinet.

7.3 Take the system out of service

Switch off the equipment completely, if you want to take it out of operation for a longer time.

1. Perform the work steps as described in chapter "7.1 Activate parking", p. 7-1. Switch the heating off also. On versions with material feed container you must first pump out all material.

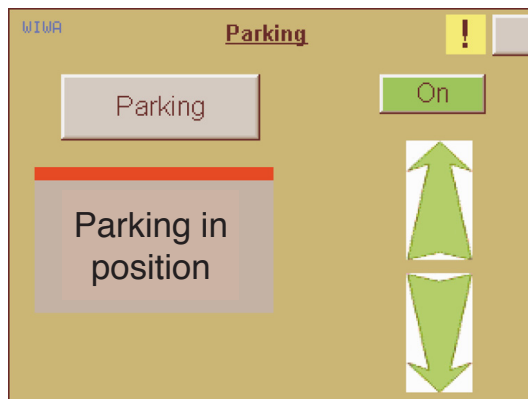


Figure 7.3.

2. Regulate the compressed air controllers on proportioner pump and feed pumps completely back.

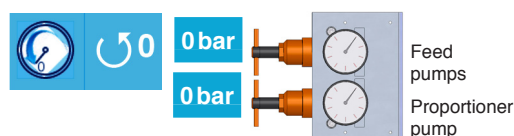


Figure 7.4

3. Close the ball valves on the feed pumps (optional).

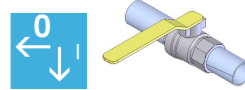


Figure 7.5.

4. Close the bungholes

➤ Close the material drums.

5. Switching off the system

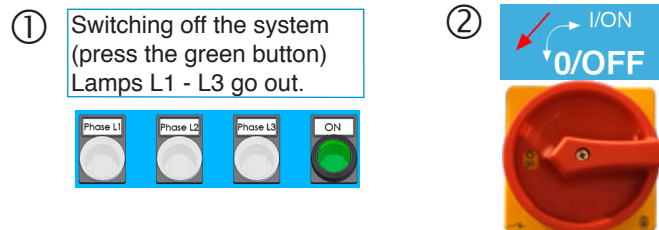
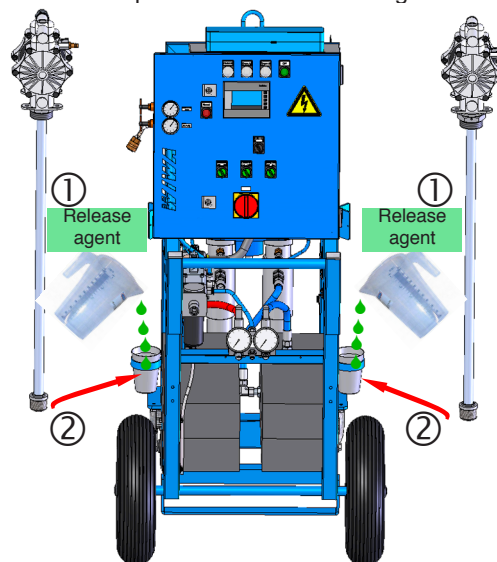


Figure 7.6.

6. Clean the spray gun as specified in „10.3.10 Cleanthespraygun“, P.10-9.

7. Put the feed pumps into storage (only for designs with feed pumps)

The suction hoses of the feed pumps remain in the material drums or are stored for transportation in the receptacles fill with release agent.



- (3) secure each of the feed pumps with the safety chain

Figure 7.7.

8. Shut off the compressed air supply.

i Note!

The receptacles for the feed pumps must always be filled with release agent.

i Note!

- For short working breaks, the equipment does not need to be emptied - please follow the notes of the material manufacturer.
- The material to be applied can be replaced by a preserving agent recommended by the material manufacturer, if required.
- Do not use any solvents!

7.4 Shutting down the equipment

i Note!

Only use the preserving agent recommended by the material manufacturer and which matches the material.

7.5 Pressure discharge

7.5.1 Without circulation and without drain hoses

1. Take the equipment out of service as described in chapter "7.3 Take the system out of service", p. 7-2.
 2. Exchange the material drums against containers with preserving agent. Fill the system with preserving agent.
 3. Allow the residual pressure escape from system and hose package, as described in chapter "7.5 Depressuring", p. 7-4.
- Disassemble the spray gun from the block, as described in chapter „10.3.6 Dismantle the spray gun“, P. 10-6.
 - Relieve the block by opening both material valves.

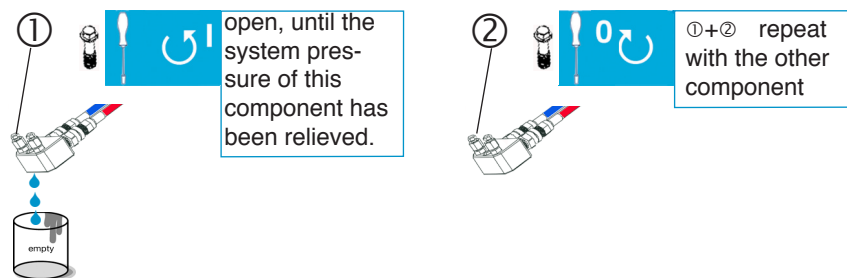


Figure 7.8

7.5.2 With drain hoses (optional)

- Open both drain valves on the outlet manifold to relieve the pressure.
- Relieve the block by opening both material valves, as described in chapter „7.5.1 Without circulation and without drain hoses“, P. 7-4.

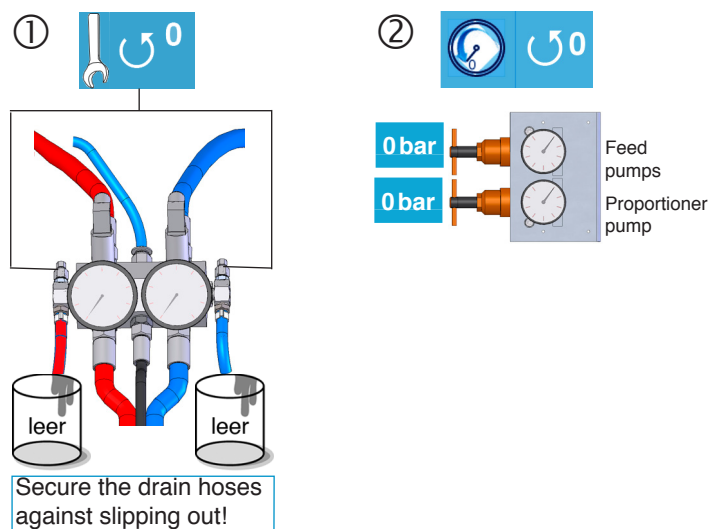


Figure 7.9

7.5.3 With circulation (optional)

The material pressure in the system is relieved through the return flow hoses. The material is returned into the material drums. After relieving the system, the pressure in the hose package be relieved by pulling the trigger on the spray gun once again.

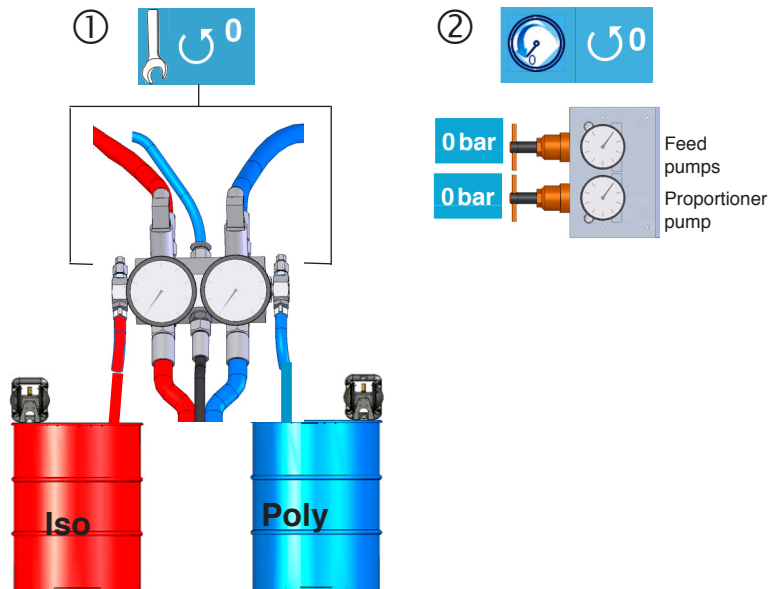


Figure 7.10.

7.6 Cleaning after spraying

7.6.1 Cleaning the equipment



Caution!

For cleaning use only cleaning agents recommended by the material manufacturer.

7.6.2 Cleaning the spray gun

1. Take the equipment out of service as described in chapter "7.3 Take the system out of service", p. 7-2.
2. After each use clean the equipment externally with the cleaning agent recommended by the material manufacturer.
3. Fill the entire system with preserving agent. Please observe the notes of the material manufacturer.

► Clean the spray gun, including the block, as specified in chapter „10.3.10 Clean the spray gun“, P. 10-9.

**Caution!**

Never allow the system to run empty. This prevents the intake of air which could cause faults in the pressure build-up for both components and crystallization of the isocyanate. Replace empty material drums with full ones in due time.

8 Material change

1. Decommissioning

- Perform the work steps as described in chapter "7.3 Take the system out of service", p. 7-2.

2. Clean the intake screen (dirt trap)

- Clean the material screen of each component on the proportioner pump or replace it, if excessively soiled.

3. Operation

- Perform the work steps as described in chapter "6.1 Start of work", p. 6-1 .

9.1 Inspection schedule

9 Maintenance

According to the accident prevention instructions for "Work with fluid spraying equipment" BGR 500, chapter 2.36, the unit needs to be inspected and serviced regularly by a trained (**WIWA** Customer Service).

The unit needs to be inspected:

- before initial commissioning,
- after the modification or repair of parts of the system which could affect safety,
- after service breaks longer than 6 months,
- but at least every 12 months.

For decommissioned units, the inspection can be postponed until the next commissioning. The inspection results must be recorded in writing and kept until the next inspection. The inspection report or a copy thereof must be available at the place of use of the equipment.

9.2 Important notes



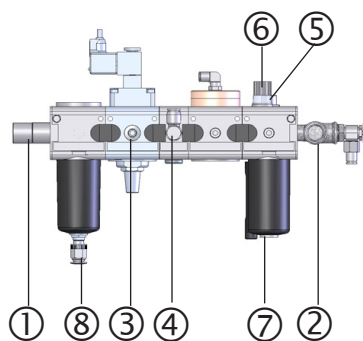
Disassembling the pressurized spraying unit can cause severe injuries to body and eyes.

- Always switch off the equipment before starting maintenance and repair work.
- Depressurize the complete system.
- Be extremely careful when disassembling material hoses and spray gun.
- Before disassembly, cover the screw connections on the material hoses with a cloth to catch possible material spatter.

9.3 Working on the maintenance unit

9.3.1 Lubricant

- Check the lubricant for the air motor in the reservoir of the maintenance unit and top up, if required.
- High humidity can cause icing of the motor.



Pos	Description
1	Connection compressed air line (operator side)
2	Connection compressed air line to proportioner pump
3	Connection compressed air line to spray gun
4	Connection compressed air line to feed pumps
5	Set screw for fog oiler
6	Filler plug
7	Oil tank
8	Water separator

Figure 9.1.

9.3.2 Adjusting the fog oiler

i Note!

Only use the lubricants and anti-freeze agents mentioned in chapter (12.2 Auxiliary materials).

- Let the proportioner pump run slowly.
- Check: 1 drop of lubricant after approx. every 10 - 15 double strokes of the air motor. If necessary adjust the regulating screw on the lubricator with a screw driver.
- Check the amount of oil in the oil reservoir every day.
 - The maintenance unit must never be operated without oil.
 - The max. oil level is indicated by a circumferential groove in the bowl.
 - To fill the oil bowl, loosen the filling screw and fill the reservoir directly.

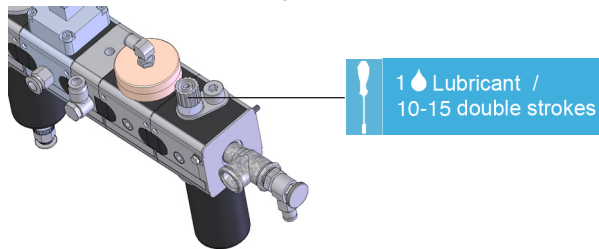


Figure 9.2

9.3.3 Draining the condensation reservoir

- The accumulated condensate is automatically drained off through the drain valve. For this purpose place the hose into an empty collecting vessel.
- Check the bowl regularly for dirt residues and clean it as required.

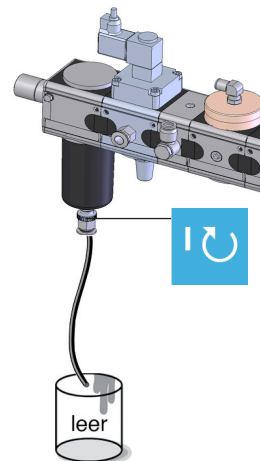


Figure 9.3

9.3.4 Notes on oil reservoir and water separator

- Disassembly:
 - Press the slide down.
 - Turn the bowl anti-clockwise.
- Assembly:
 - Make sure the O-ring is correctly fitted.

9.4 Inspection of release agent

- To protect the packings, use **WIWA®**- release agent.
 - Check:
 - the fill level in the release agent container before each start-up (200 ml)
 - the release agent at regular intervals for discolouration caused by spraying material.
 - Replace the pump packings:
 - in case of excessive discolouration of the release agent
 - if the level in the release agent container rises (see spare parts list for material pump).
- This work must only be performed by **WIWA®** trained personnel or the **WIWA®**-customer service.**

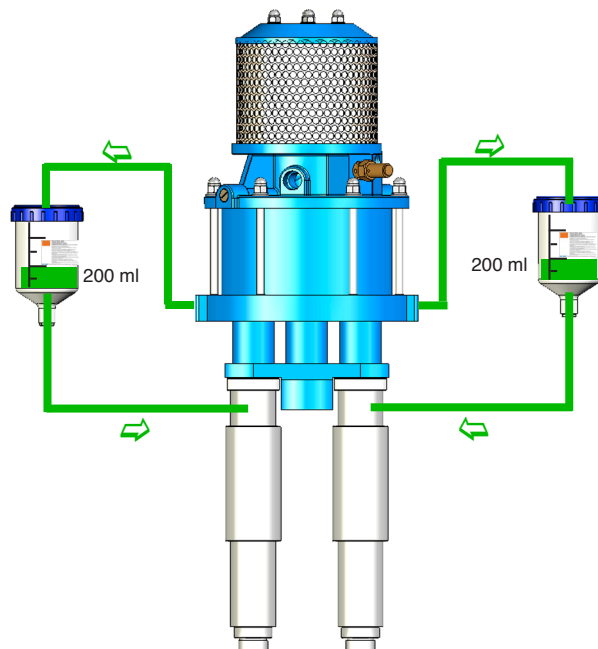


Figure 9.4.

10 Optional equipment

10.1 Circulation

Before applying the coating, you must vent the entire system.

Advantages:

- Air in the system is forced out
- Continuous discharge of both material components is assured
- No disruption of spray pattern by sudden air shocks
- Uniform material temperature and consistency throughout the entire system
- Material flow heaters maintain the material at operating temperature

10.1.1 Circulation system

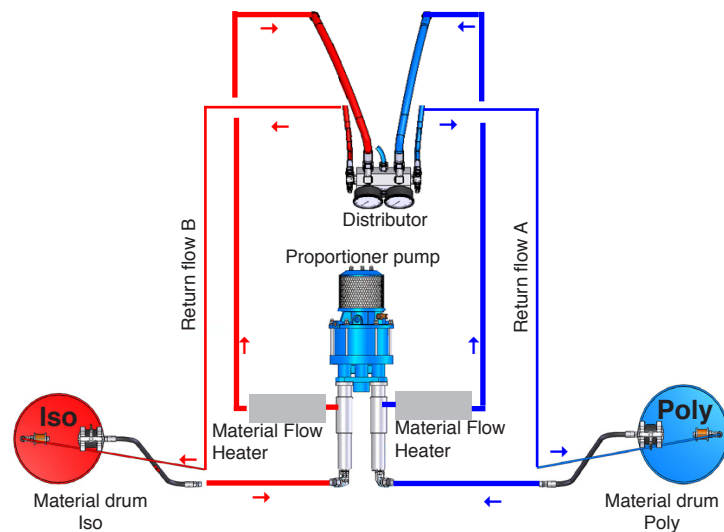


Figure 10.1

10.1.2 Circulation / Ventilation

Prerequisite

- The returnhoses are securely connected with material drums and outlet manifold.
- The spray gun is locked. The unit is ready for operation.

1. Open the circulation and start to supply with compressed air

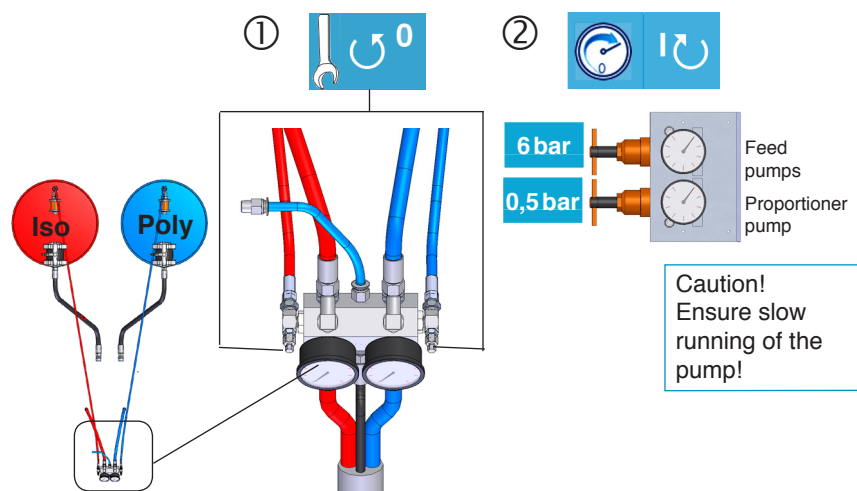


Figure 10.2.

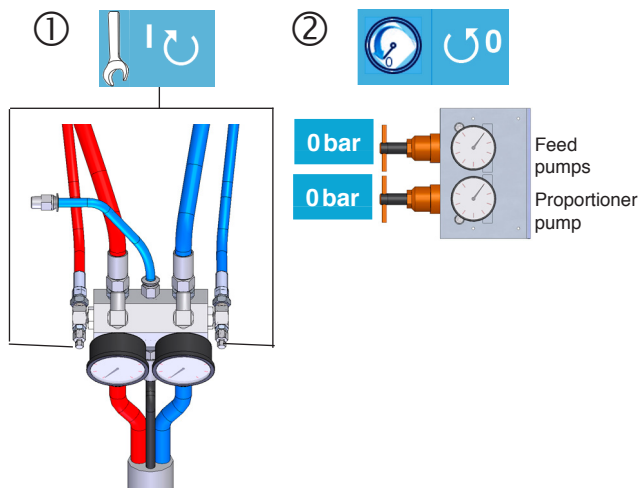
2. Stop circulation

Figure 10.3.

10.2 Silica gel filter**i Note!**

Only heat up the granulate. Heating up the complete filter can damage the housing.

The silica gel filter is a moisture filter for installation on the drum lid of the Iso component.

The granulate in the filter must be dried regularly.

- Drying temperature: approx. 50°C
- Drying time: approx. 4 h
- Drying is required: in case of discolouration of the granulate

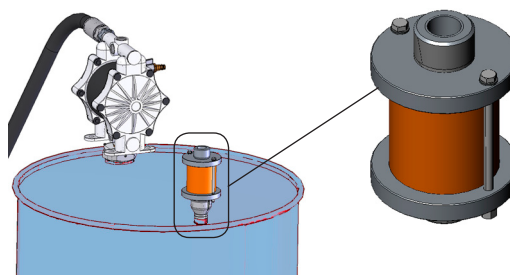


Figure 10.4.

10.3 Spray gun

10.3.1 Spray gun components

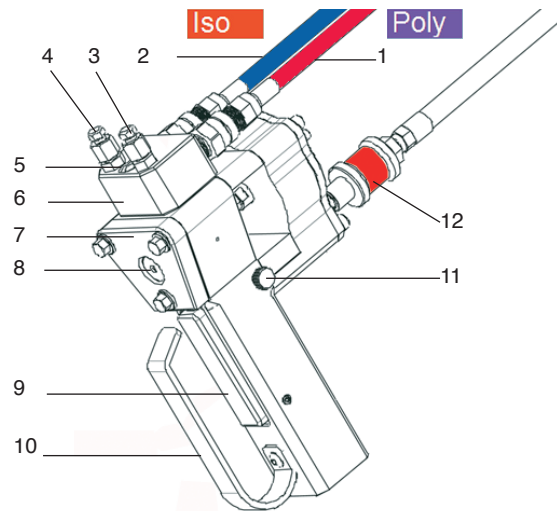


Figure 10.5.

Position	Description
1	Material hose comp. Poly
2	Material hose comp. Iso
3	Material shut-off valve comp. Poly
4	Material shut-off valve comp. Iso
5	Screw to mount the block to the spray gun
6	Block
7	Front cap
8	Mix module
9	Trigger
10	Trigger guard
11	Spray jet control
12	Air pressure valve

10.3.2 Safety features



Caution!

Do not open these valves if the spray gun is not connected or when the material outlets of the block are not directed into a suitable container.

- The spray gun can be secured as follows:

- ① Air pressure valve (trigger lock), (Figure 10.4.):
The spray gun cannot be operated without air pressure in the air pressure cylinder. To lock the spray gun, press the air pressure valve back away from the compressed air cylinder, which is thereby relieved through the valve.
- ② Material shut-off valves, (Figure 10.4.):
No material comes out of the spray gun when the valves are closed. In order to lock the spray gun additionally this way, you must turn the valves in a clockwise direction until they are closed.

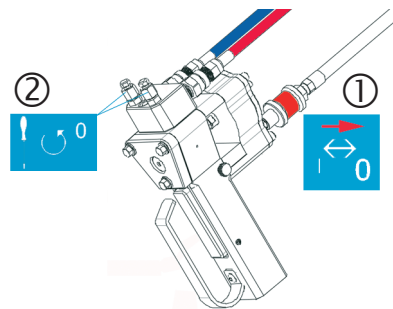


Figure 10.6.

10.3.3 Notes on operation

- For spraying, both material valves must be opened (1 ½ turn) and compressed air must be connected.
- When the spray gun is not in operation, you must keep the air pressure adapters free of foreign particles.
- Use only clean and dry compressed air to avoid the formation of droplets in the spray pattern.
- The front plate of the spray gun must be very clean and free of score marks.
- The front plate must remain attached at all times when the manual valves are open.
- The front plate screws must be tightly fastened with a spanner wrench.
- Before starting spraying, check the function of the trigger.
- The spray jet can be adjusted with the spray jet regulating screw, if required. max. ¼ - ½ revolutions
- Consult the material manufacturer concerning suitable cleaning and flushing agents. Make sure that the cleaning agents will not cause swelling of the O-rings.
- Do not soak O-rings or the mix module in solvents. Solvents must solely be used for cleaning and should then be wiped off again immediately.
- Never submerge the complete spray gun in solvent. This could damage the O-rings.

10.3.4 Connecting the spray gun to the hose package

1. Connect the material valves to the block

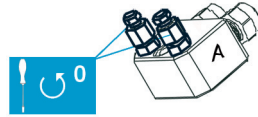


Figure 10.7.

2. Assemble the material hoses to the block

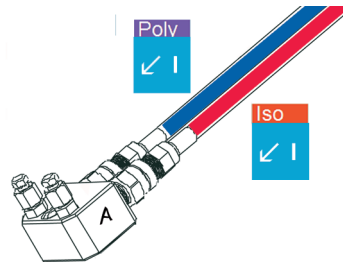


Figure 10.8

3. Mount the block to the spray gun

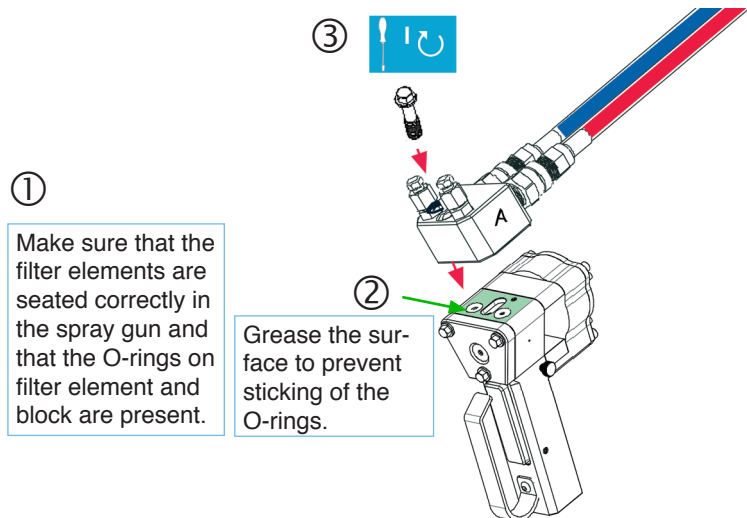


Figure 10.9

4. Connect the compressed air hose to the spray gun

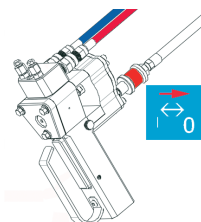


Figure 10.10

10.3.5 Check the spray gun

- Before operation check the correct use of the spray gun:
 - Spray pattern control valve for spraying fog
 - Front cap for leakage.
 - The rear seals in the nut for leakages, (Figure 10.9). Tighten the nut only so far that leakages are eliminated. Do not overtighten.

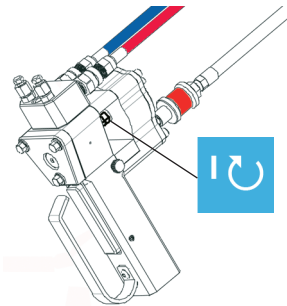


Figure 10.11

10.3.6 Dismantle the spray gun

- 1.** Connect the material valves to the block
- 2.** Close the air pressure valve and pull off the compressed air hose
- 3.** Operate the trigger on the spray gun once again
- 4.** Loosen the fastening screws on the block

10.3.7 Start spraying

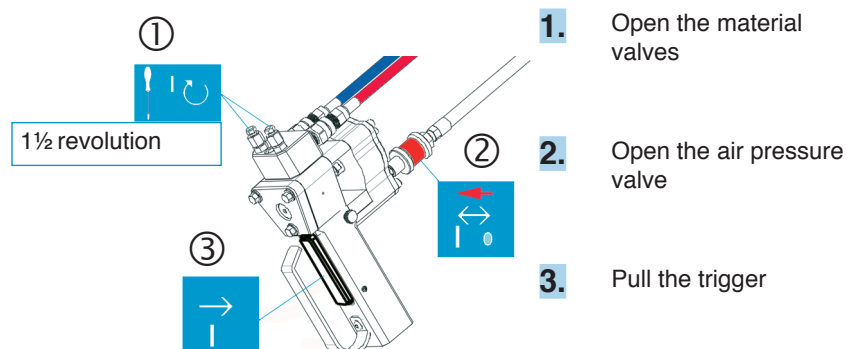


Figure 10.12

10.3.8 End spraying

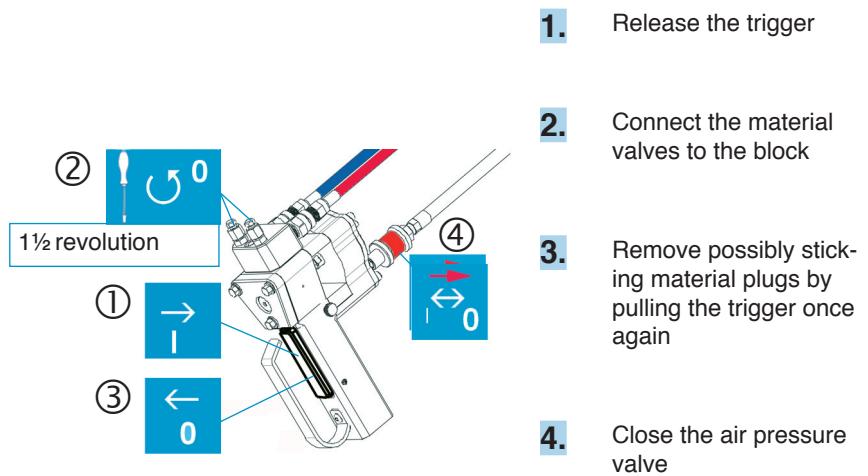


Figure 10.13

10.3.9 Spray gun maintenance

Lubrication

- Lubricate the air inlet every day with 2 - 3 drops of spray gun oil.
- Lubricate the grease nipple regularly with grease, until clean grease appears in the module receptacle, (Figure 10.12).

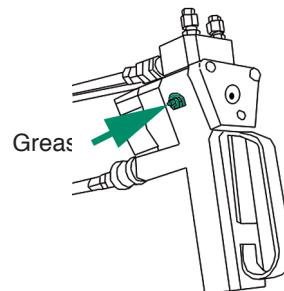
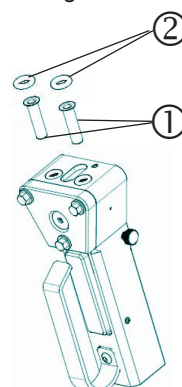


Figure 10.14

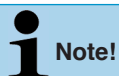
Filter change

- Soiled or damaged material filters can cause malfunctions in the spraying process, such as overpressure of a component. You should therefore clean the filters at regular intervals.
- Use the material filters recommended by the material manufacturer for your spraying material. Make sure that each O-ring that is mounted to the filter is clean and free of damage.



Pos.	Designation
1	O-ring
2	Material filter

Figure 10.15



Note!

The filter size depends on the mix module used!

Note!

Mix module and round jet nozzle as well as cleaning drill must be matched to each other.

The size of the mix module depends on the material to be processed. Consult your material manufacturer!



Caution!

Filter and mix module must always be kept clean to avoid malfunction of the spray gun.

Changing the mix module

- Replace the mix module before it is worn. Using a worn module will cause extremely high paint consumption and adversely affects the quality of material application.
- Disassemble the spray gun from the block, as described in „10.3.6 Dismantle the spray gun“, P. 10-6 before you start the replacement.
- After removing the front cap ④, of the round jet nozzle ③ and the mix module ② check the inlets and outlets of the filter element and the mix module for cleanliness and possible blockage. Use a drill bit of appropriate diameter to remove possible material residues.
- Use the mix module size recommended by the material manufacturer for your spraying material.

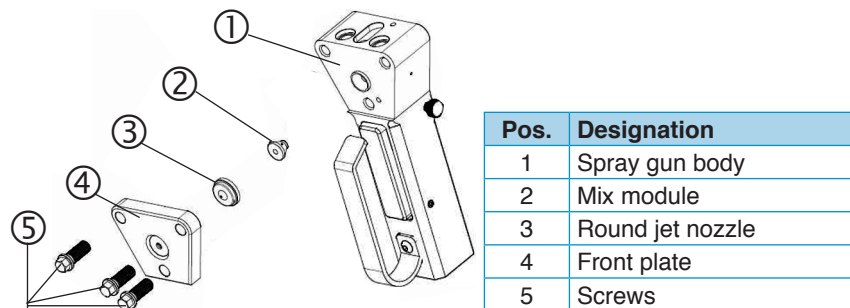
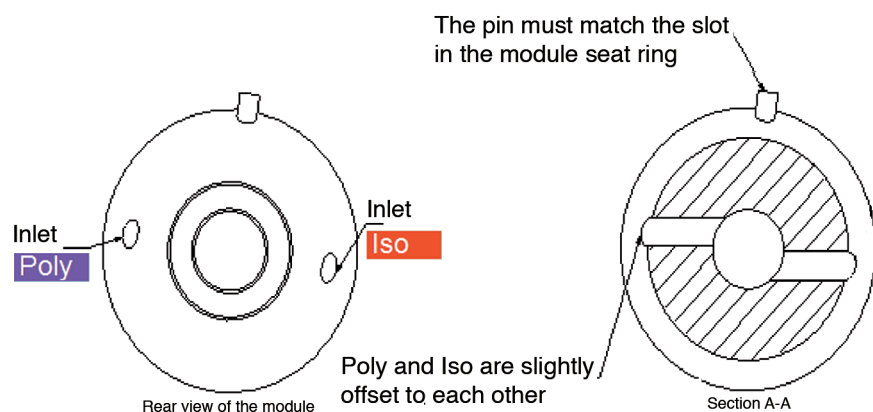


Figure 10.16.

- Assemble the mix module as follows:
 - Slide the module with the smaller diameter forward over the valve rod in the spray gun body. Carefully align the pin of the module in the recess of the module seat ring. Press the module firmly into its seat, (Figure 10.15). Check the correct seat of the pin once again.



Caution!

Drill only to the middle of the module!
Do not drill directly through the module!

Figure 10.17

- Check the round jet nozzle for cleanliness. The nozzle can be cleaned with a drill bit of appropriate size.
- Apply a slight amount of grease to the round jet nozzle. Slide the round jet nozzle over the mix module.

10.3.10 Clean the spray gun



Caution!

Never submerge the spray gun in solvent for cleaning, since this will cause damage to the O-rings and the slide valve of the trigger.



Caution!

Use only lubrication greases recommended by the material manufacturer.

- Mount the front cap over the round jet nozzle with the three screws, (Figure 10.14.). Tighten the screws very tight (SW8). Slightly grease the front face of the front cap.

1. Disassemble the spray gun from the block.

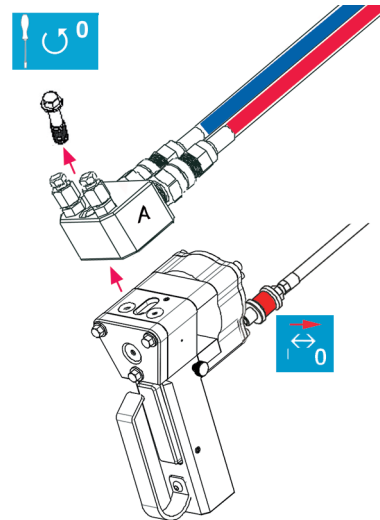
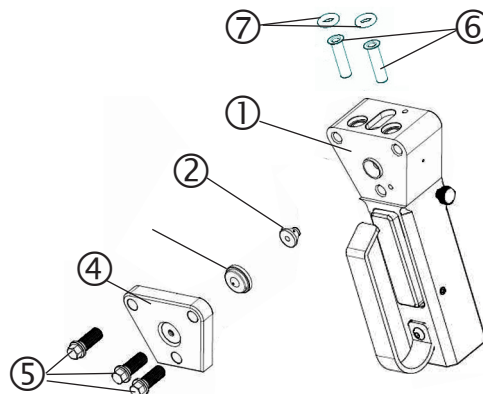


Figure 10.18

2. Dismantle and clean the spray gun.



Pos.	Designation
1	Spray gun body
2	Mix module
3	Round jet nozzle
4	Front plate
5	Screws
6	Filter element
7	O-ring

Figure 10.19

- Remove all material residues from all parts and material conducting passages. Use a cleaning agent soaked cloth to remove deposits (e.g. caused by spray fog) from the spray gun.

3. Clean the block.

- Clean the outside of the block with a cloth soaked in cleaning agent.
- Thoroughly remove any material residues from the material outlet opening.

4. Grease the contact areas on spray gun and block.



11 Malfunctions and trouble-shooting

11.1 General trouble-shooting

Fault	Possible cause	Remedy
1. The equipment does not start.	➤ Energy supply interrupted (no compressed air, no electric power supply). ➤ Master switch in position "OFF". ➤ Equipment not switched on.	➤ Ensure compressed air and electric power supply ➤ Switch the master switch to "ON". ➤ Switch on the equipment.
2. The feed pumps work without interruption, no material comes out of the spray gun.	➤ The material drum is empty. ➤ The intake is defective. A pump draws in air. ➤ The intake screen is clogged. ➤ Material feed pump(s) is (are) defective.	➤ Replace the material drum. ➤ Replace the intake. ➤ Clean or replace the intake screen. ➤ Repair the feed pump(s).
3. The feed pumps do not deliver any material into the dual component system.	➤ The dirt trap before the material inlet on the dual component system is clogged.	➤ Clean the dirt trap of the dual component system.
4. No pressure built up by a pump during downwards stroke of proportioner pump. The pressure of the other components rises.	➤ The bottom valve of the pump without pressure is soiled or defective.	➤ Disassemble and clean the bottom valve. ➤ Replace defective ball or valve plate.
5. No pressure built up by a pump during upwards stroke of proportioner pump.	➤ The piston valve of the pump without pressure is leaking.	➤ Disassemble and clean the piston valve. ➤ Replace defective ball or valve plate.
6. A pump does not generate pressure in up and down stroke. The pressure of the other component is very high.	➤ The pump without pressure does not receive any material. ➤ Both valves soiled or defective.	➤ Check the material supply. ➤ Check the valves.
7. When venting, the pressure of one component remains applied. The pressure of the other component drops.	➤ Return hoses (optional), material hose or spray gun (optional) clogged.	➤ Check return flow hoses (optional) and material hoses for free flow. ➤ Check the valves.
8. When spraying the pressure of a component always increases in comparison with the other component.	➤ The packings in the pump without pressure are leaking. ➤ Filter in spray gun clogged ➤ Mixing chamber clogged.	➤ Repair the pump without pressure (renew the packings). ➤ Clean the filter. ➤ Clean the mixing chamber.
9. When spraying not enough pressure or material is transferred to the spray gun, even though the pressure in the system is high enough.	➤ Material hose or spray gun blocked by deposits. ➤ The mixing chamber in the spray gun is clogged.	➤ Clean or replace material hoses and spray gun. ➤ Replace the mixing chamber in the spray gun.
10. Compressed air escaping from the air motor at the guide axes.	➤ The air motor seals are worn.	➤ Seal the air motor.

Fault	Possible cause	Remedy
11. When spraying the air motor of the proportioner pump runs jerkily. The spraying pressure indicated by the pressure gauges and the air pressure drop when the spray gun is opened.	➤ The cross-section of the compressed air supply line is too small. ➤ The air pressure in the supply network is too low.	➤ Increase the cross-section of the compressed air line. ➤ Increase the air pressure in the network.
12. The air motor no longer works, even though the compressed air supply is assured. No material pressure available in the system.	➤ The air motor control is defective.	➤ Have the air motor repaired in the (WIWA®- Service workshop).
13. The filling level of the release agent container and/or the colour of the release agent changes.	➤ The seals on the material pumps are worn.	➤ Replace the seals on the material pumps.
14. A material flow heater does not heat up.	➤ Technical defect in the material flow heater.	➤ Have the material flow heater examined by a trained electrician.

11.2. Trouble-shooting on the spray gun

Fault	Possible cause	Remedy
1. Slight loss of pressure on the side of the front cap.	➤ This is normal.	➤ No action required.
2. The valve rod does not trigger.	➤ No air pressure available. ➤ Insufficient air pressure available. ➤ Rear sealing nut excessively tightened.	➤ Connect the air supply and open the air valve. ➤ Set the air pressure to 80-130 psi. ➤ Loosen the nut slightly.
3. Spray fog on round jet nozzle, even though the trigger has not been actuated.	➤ Screws on front plate loose. ➤ The rear side of the front plate is soiled. ➤ Mix module bore worn.	➤ Tighten the screws on the front plate with a spanner. ➤ Clean the front plate and check for score marks. ➤ Replace the mix module..
4. Increased overspraying	➤ Excessive air flow to the front cap. ➤ Material pressure set too high.	➤ Reduce the air flow by the needle valve. ➤ Reduce the material pressure.
5. Round spray pattern forms "fingers" or is deformed.	➤ The round jet nozzle is soiled or worn.	➤ Clean the round jet nozzle with an appropriate drill. ➤ Replace the round jet nozzle.
6. Pressure fluctuations.	➤ Mix module inlets and outlets soiled or worn. ➤ Viscosity of components A and B not uniform. ➤ Filter element dirty. ➤ Check valves dirty.	➤ Clean the mix module inlets and outlets with an appropriate drill or replace the mix module. ➤ Regulate the material temperature accordingly. ➤ Clean or replace the filter elements. ➤ Clean or replace the check valves.
7. Gelated or hardened material in the air channels to the front cap.	➤ Incorrectly directed material, air in hoses.	➤ Clean or replace the check valves.
8. Material emerges from the back side seal.	➤ Sealing nut loose. ➤ Back side seal worn or damaged.	➤ Slightly tighten the seal. ➤ Replace the backside seal.
9. Rapid build up of material on the round jet nozzle or the front cap.	➤ Insufficient air flow to the front cap.	➤ Increase the air flow to the front cap.
10. Spray gun triggers only very slowly.	➤ O-rings dry or worn.	➤ Wet the spray gun with spray gun oil. ➤ Replace and lubricate the O-rings.
11. Pressure loss on air outlet.	➤ Damaged O-rings on slide valve. ➤ Damaged O-ring on piston.	➤ Replace the O-rings on slide valve. ➤ Replace the O-rings on piston.

11.3 Error messages on the control cabinet

Fault	Possible cause	Remedy
1. Overpressure Iso.	➤ Mixing element clogged on the Poly-side. ➤ Spray gun filter clogged. ➤ Dirt trap "Poly" clogged. ➤ Sensor cable not connected or defective. ➤ Air in system.	➤ Dismantle the spray gun and relieve the valve of the component Poly. ➤ Clean the spray gun filter. ➤ Clean the dirt trap "Poly". ➤ Connect or repair the sensor cable. ➤ Ventilate the system.
2. Overpressure Poly.	➤ Mixing element clogged on the Iso-side. ➤ Spray gun filter clogged. ➤ Dirt trap "Iso" clogged. ➤ Sensor cable not connected or defective. ➤ Air in system.	➤ Dismantle the spray gun and relieve the valve of the component Iso. ➤ Clean the spray gun filter. ➤ Clean the dirt trap "Iso". ➤ Connect or repair the sensor cable. ➤ Ventilate the system.
3. Overtemperature B - Reset flashing	➤ Temperature sensor defective. ➤ Control defective. ➤ Sensor line not connected or defective.	➤ Switch off heating "B" (Iso). ➤ Have the temperature sensor inspected by a electrician. ➤ Have the control inspected by a electrician. ➤ Check the sensor line. Note: After rectification, press Reset and Start button.
4. Overtemperature A - Reset flashing	➤ Temperature sensor defective. ➤ Control defective.	➤ Switch off heating "A" (Poly). ➤ Have the temperature sensor inspected by a electrician. ➤ Have the control inspected by a electrician. Note: After rectification, press Reset and Start button.
5. Sensor Poly / Iso or Sch	➤ Sensor defective or sensor cable not connected.	➤ Repair the sensor or connect the sensor cable.
6. Insufficient compressed air supply	➤ Operator side: ➤ Air inlet pressure below 4 bar. ➤ no compressed air, even though the system is switched on.	➤ Operator side: ➤ Set the air inlet pressure to min. 4 bar. ➤ Use a compressed air line. ➤ Increase the compressor power. ➤ Operator side: ➤ Check and ensure the compressed air supply

Fault	Possible cause	Remedy
7. Pressure differential Poly higher than Iso (only in automatic mode).	➤ Filter Iso clogged. ➤ Material drum Iso empty.	➤ Clean Iso filter. ➤ Replace or fill the Iso material drum.
8. Pressure differential Iso higher than Poly (only in automatic mode)	➤ Filter Poly clogged. ➤ Material drum Poly empty.	➤ Clean Poly filter. ➤ Replace or fill the Poly material drum.
9. Fuse has tripped.	➤ Short circuit. ➤ Overloading of material flow heaters or hose package.	➤ Have fuse checked and activated by a electrician.
10. No compressed air available after starting the system.	➤ Fuse for pneumatic valve defective.	➤ Have the fuse replaced by a electrician according to the wiring diagram.
11. The control light of one or several phase monitoring features does not light.	➤ Master switch not switched on. ➤ One or several phases missing. ➤ Fuse defective.	➤ Switch on the master switch. ➤ Have the phases checked by a electrician according to the wiring diagram. ➤ Have the fuse replaced by a electrician according to the wiring diagram.

**Note:**

The Reset button needs to be pressed each time a fault has been corrected.
If the system has shut down, you must restart it by pressing the green Start button.



12 Appendix

12.1 Technical data

Model		Version with pneumatic motor		
Max. operating pressure (bar / psi)		240 / 3500		
Pressure ratio		30:1		
Mixing ratio		1:1		
Max. inlet pressure (bar / psi)		8 / 116		
Pump capacity per double stroke (cm³ / inch³)		194.4 / 12		
Application capacity max. ($\frac{l}{min}$ / $\frac{gal}{min}$)		12 / 3.17		
Hose length max. (m / ft)		93 / 305		
Temperature of material to be applied (°C / °F)		min. 50 / 122	max. 100 / 212	
Air consumption ($\frac{l}{min}$ / $\frac{gal}{min}$) at a displacement of 4l / 1 gal		1000 / 264		
Electric power connection				
Rated voltage max. (v)		400	230	
Phases		3	3	1
Rated current max. (A)		25	42	63
Number of hose packages	L1 (15 m / 49,21 ft)	2	2	3
	L2 (15 m / 49,21 ft)	2	2	-
	L3 (15 m / 49,21 ft)	2	2	-
Emitted sound pressure level at the work place				
in idle mode (L _{pAd}) (dB)		84		
under load (L _{pAd}) (dB)		80		
Dimensions - length / width / height (mm / inch)				
Version with feed pumps		990 x 730 x 1410 40 x 29 x 55,5		
Version with feed pumps and hose bracket		1140 x 730 x 1470 45 x 29 x 58		
Version with feed drum		1400 x 750 x 1410 55 x 30 x 55,5		
Version with feed drum and hose bracket		1550 x 750 x 1470 61 x 29,5 x 58		
Spray gun				
max. operating pressure (bar / psi)		240 / 3500		
min. air inlet pressure (bar / psi)		5.5 / 80		
max. air inlet pressure (bar / psi)		9 / 130,53		
min. material flow ($\frac{kg}{min}$ / $\frac{lbs}{min}$)		0.9 / 2		
min. material flow ($\frac{kg}{min}$ / $\frac{lbs}{min}$)		18 / 40		
max. fluid temperature (°C / °F)		93 / 200		
Compressed air connection		¼" NPT, quick release coupling		
Connection of Iso component		1"4" FTP		
Connection of Poly component		1"4" FTP		
Dimensions - length / width / height (mm / inch)		17.15 x 6.67 x 10.8 0,68 x 0,26 x 0,43		
Weight (kg / lbs)		1 / 2,2		

12.2 Auxiliary materials

Designation	Order-number
Release agent	0640616 (0,5l / 0,13 gal) 0633538 (5l / 1,32 gal)
Multi-purpose grease for spray gun (0,085 kg / 0,19 lbs)	0654576
Thread sealant (0,050l/ 0,01 gal)	0000015
Lubricant (acid-free grease, 0.4 kg / 0,88 lbs)	0000025
Anti-freeze agent (0,5l / 0.13 gal)	0631387
Pneumatic oil (0.5l)	0632579

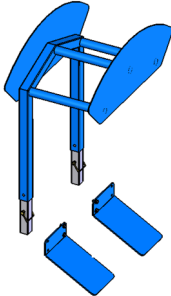
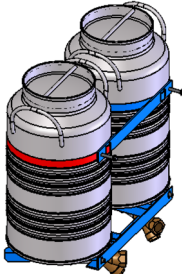
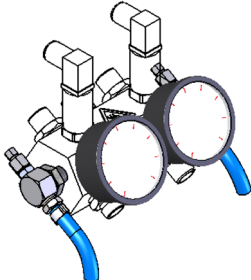
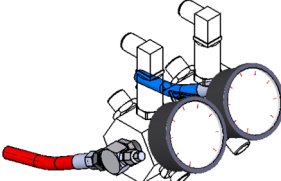
12.3 Tools

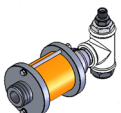
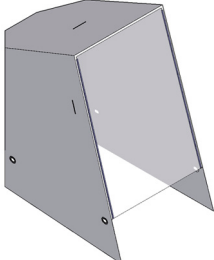
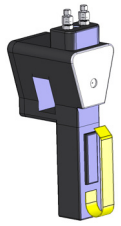
This certificate follows the EC-Directive for working utensils 85/655/EEC, section II article 7.

The owner of the device specified below has instructed the operating personnel.

12.4 Accessories

The accessories do not belong to the scope of delivery of the equipment, but can be purchased optionally after consultation with **WIWA**.

	Order-number	Description
	0654652	Mounting kit for hose bracket for 15 m, 30 m, 45 m hose package
	0654696	Mounting kit for hose bracket for 60 m, 75 m, 90 m hose package
no picture	0654784	Protective hose, black, with hook & loop fastener, without insulation for hose package
no picture	0654785	Protection hose, clear foil for hose package
	0654481	Diaphragm pump
	0654676	Mounting kit with stainless steel container
	0654688	Mounting kit for Circulation with drain
	0654689	Mounting kit for Circulation with return

	Order-number	Description
	0654664	Mounting kit for silica gel filter for feed pump without return
	0641716	Mounting kit for silica gel filter for feed pump with return
	0654671	Protection hood for control cabinet
no picture	0654436	Display protection film
	0654522	Impingement mix spray gun
no picture	0654523	Mounting kit for spray gun connecting nipple
no picture	0654546	Accessory kit for spray gun
no picture	see spare parts list for spray gun	Mix modules and round jet nozzles for spray gun
no picture	0000104	Vaseline
no picture	0000281	Paint remover spray
no picture	0654512	Grease gun cpl.
no picture	0654576	Refill cartridge for grease gun
no picture	0654823	Cleaning brush set

12.5 Instruction Certificate

.....
(Manufacturer, type designation, year of construction, order-number)

The instruction was conducted by the representative of the owner:

.....
(Foreman or responsible superior, name, department)

The instructed person has read and understood the user manual for the equipment listed above, especially the chapter about safety, and declares that he is able to operate the unit in a safe way.

.....
(Operating personnel, date, name)

.....
(Personnel for repair and maintenance, date, name)

.....
(Personnel for electric / electronics, date, name)

13.1 Master settings



After logging in you can use **F4** only to navigate between the masks *Settings*, *Pressure Settings* and *Stroke Counter Settings*.

13 Service

Changing master settings is strictly reserved for trained service personnel and the **WIWA** Customer Service.

You can access the corresponding display by

- **F4** pressing (①),
- Enter your *Master*-password and confirm with the ENT-key (②),
- the **Master** - display appears (③).



Figure 13.1

13.1.1 Pressure settings

Press **F4**.

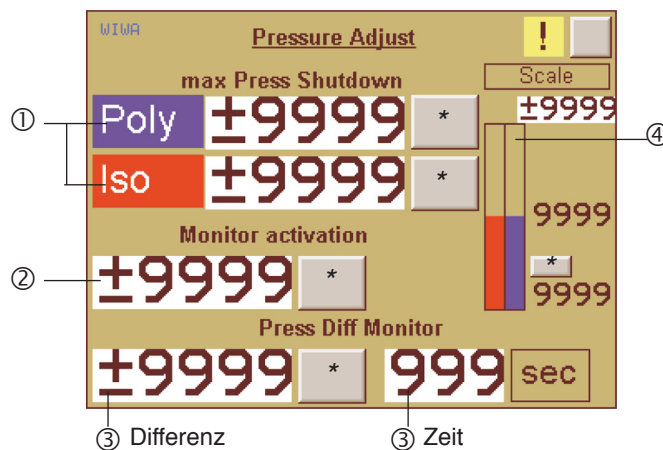


Figure 13.2

Pos.	Description
1	Upper limit for the maximum permissible material pressure for each component. When a value is exceeded the system will change to malfunction and switch off.
2	Value to start automatic pressure monitoring for both components (A).
3	Determination for maximum difference between the components and the maximum duration of this difference. When the difference is exceeded, a time delay is activated. When the entered value for the maximum duration of the difference is exceeded, the system will change to malfunction and switch off.
4	Graphic representation of pressures. The scaling is adjustable
*	selected unit

13.1.2 Setting the stroke counters

Press .

Take this value from the type plate of the proportioner pump or the information in chapter "12.1 Technical data", p. <?>. This information is for the daily or total quantity counters regarding the delivered volume per litre (see *Figure 3.13.*).

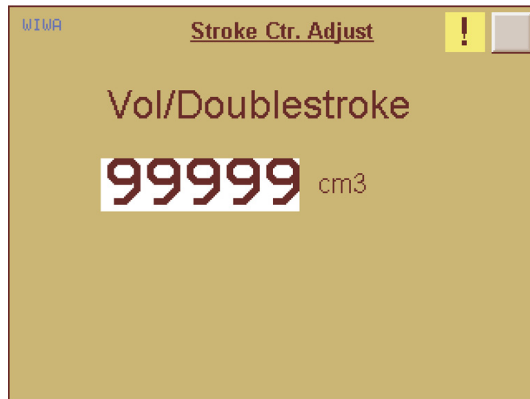


Figure 13.3

13.1.3 Quitting Master settings

Possibilities to exit this menu:

Possibility	Description
1	➤ Press  until you have entered the mask "Settings". ➤ Activate . ➤ The mask used last before making the settings with open.
2	➤ Press another function key (, , , )
3	➤ Automatic logout after time has elapsed.

13.2 WIWA Settings



Note!

The WIWA Customer Service has unlimited Master rights, see chapter ("13.1 Master settings", P. 13-1).



Note!

After logging in you can use **F4** only to navigate between the masks *Settings*, *Pressure Settings*, *Stroke Counter Settings* and *WIWA Settings*.

Changing of **WIWA**-settings is strictly reserved for the **WIWA** customer service. You can access the corresponding display by

- **F4** pressing (①),
- Enter your **WIWA** password and confirm with the ENT-key (②),
- the **WIWA** - display appears (③).

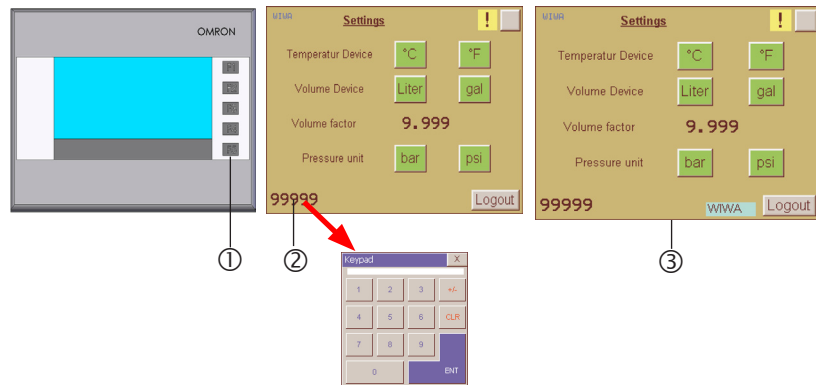


Figure 13.4

13.2.1 Settings for the permissible temperature differences

In this mask you can enter the permissible deviations for the heating, separately for the material flow heaters for both components, as well as for the hose package, (Figure 15.3).

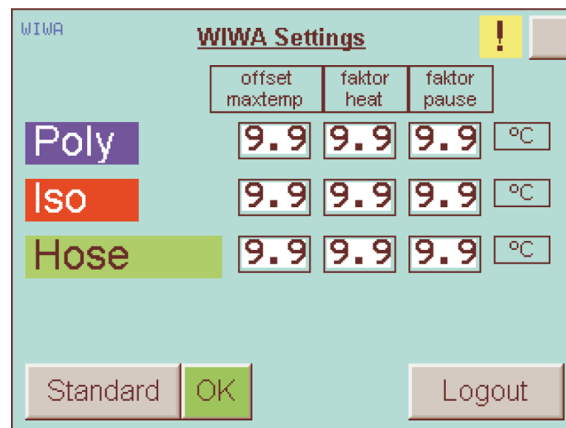
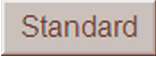
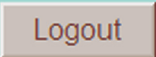


Figure 15.1.

Symbol	Description
offset maxtemp	permissible deviation from the max. temperature
faktor heizen	the heating is switched off before the set temperature is reached, so that overheating is avoided ➤ the higher the factor, the earlier the heating will switch off
faktor pause	input of how long the heating should remain switched off after the set temperature has been reached ➤ the higher this factor, the longer the break
OK	Confirmation of input for standard values (factory setting)

Symbol	Description
	return to the preset basic settings
	The mask WIWA® -settings is active over a limited period of time or can be exited by pressing this button.

13.2.2 Quitting WIWA Settings

see chapter „13.1.3 Quitting Master settings“, P. 13-2

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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